# **Cumulative Author Index for Volume 3**

Abello, L., 438, 623 Achete, C.A., 88 Agulló, F., 1183 Ailey, K.S., 332 Aizawa, T., 975 Aksenov, I.I., 525 Al-Bayati, A.H., 1277 Albella, J.M., 715, 1183 Alexenko, A.E., 328 Allers, L., 932, 1023 Amaratunga, G.A.J., 353, 817, 1048 Amouroux, A., 41 An, I., 431 Anderson, L.W., 422 Ando, T., 975 Andrade, E., 831 Andreyev, A.V., 7, 1262 Andreyev, V.D., 1325 Anger, E., 645, 752 Angus, J.C., 129 Anthony, T.R., 227 Anttila, A., 52 Aoki, M., 961 Arbuzov, V.L., 775 Asano, T., 1296 Ashfold, M.N.R., 783, 810, 939, 1375 Asinari, C., 98, 912 Aubreton, J., 560, 598 Avalos-Borja, M., 177 Avigal, I., 542 Avigal, Y., 805 Awazu, K., 1117

Babaev, V.G., 328 Babu, S.V., 210 Bachmann, P.K., 129, 799, 1308 Baerwind, H.U., 983 Bahng, G.W., 163 Baik, Y.-J., 1230 Baker, S.M., 94 Bakunin, O.M., 779 Baldeschwieler, J.D., 94 Bamberger, M., 805 Baránková, H., 528 Bárdos, L., 528 Barholm-Hansen, C., 564 Barrat, S., 520 Bauer-Grosse, E., 520 Baumann, H., 638 Baumann, P.K., 883 Bausen, H.D., 1308 Beck, R.B., 853 Beckman, J., 602 Beckmann, R., 555 Beetz, Jr., C.P., 534 Belousov, I.S., 7 Bentzon, M.D., 564 Berg, S., 528

Ayres, C.F., 393

Berger, S., 805

Bernardez, L.J., 22 Beskrovanov, V.V., 198 Beyer, W., 88 Bharuth-Ram, K., 151 Biebl, H., 825 Bigorgne, F., 569 Binder, H., 137 Bischoff, J.L., 264, 1279 Blaudeck, P., 245, 462, 966, 1056 Boettger, E., 957 Bolmont, D., 264, 1279 Bondar, I.V., 61 Bonnot, A.M., 426, 448, 577 Booth, J.P., 587 Borst, T.H., 515 Bossut, F., 41 Boyd, K.J., 1277 Bozhko, A.D., 871 Braithwaite, N.St.J., 83, 1223 Brandon, J.R., 303 Bregadze, A.Yu., 328 Bremensdorfer, R., 741 Brener, R., 677 Brenn, R., 1091 Breton, Y., 581 Briddon, P.R., 1370 Brierley, C.J., 1137 Briggs, A., 871 Brissot, J., 41 Brozek, T., 720 Buchholtz, B.W., 534 Buckley-Golder, I.M., 393, 983 Buhaenko, D.S., 926 Bull, S.J., 205, 1265 Burchard, B., 947 Busch, J.V., 295 Busmann, H.-G., 966

Cameron, D.C., 551 Campargue, A., 587 Cappelli, M.A., 417 Carlsson, J.O., 1 Carrière, B., 569 Catherinot, A., 560, 598 Cellier, F., 1112 Chalker, P.R., 393, 983 Chandra, L., 791 Charalabidis, D., 1128 Charrier, C., 41 Chebotko, I.S., 1352 Chelnokov, V.E., 1356, 1393 Chen, C.-F., 443, 632 Chen, G., 1315 Chen, S.-H., 443, 632 Chenevier, M., 587 Cheshire, R., 702 Chia, Q.S., 939 Childs, M.A., 422 Chua, L.H., 706 Chudinov, S.M., 871

Chukichev, M.V., 147
Cifre, J., 492, 628
Cinelli, M.J., 560
Clyne, T.W., 791
Cock, A.M., 783
Cohen, S., 281
Collins, A.T., 737, 821, 932, 1023
Collins, R.W., 431
Connell, S.H., 151
Contreras, O., 177
Cooper, C.V., 534
Cooper, M.A., 1158
Costello, M.C., 1137
Cota-Araiza, L., 177, 831
Cubertafon, J.C., 587
Cyrot-Lackmann, F., 448

Cyrot-Lackmann, F., 448 Cytermann, C., 677 Davis, C.A., 353 Davis, R.F., 332, 883 Davitt, E.M., 702 Davletshin, A.E., 775 De Martino, C., 547, 814, 844 de Weldige, K., 711 Dekempeneer, E.H.A., 613 Demichelis, F., 547, 814, 844 Demuynck, L., 569 Deneuville, A., 623, 654, 737, 836 Denisenko, A.V., 947 Denisse, E., 41 Derst, G., 917 Dervieux, G., 41 Deshmukh, S., 195 Deuerler, F., 325 Deutschmann, S., 245, 1056, 1097 deVries, J.E., 1270 Diani, M., 264, 1279 Didyk, A.Ju., 711 Dieguez, I., 520 Dirnfeld, S.F., 805 Dischler, B., 825 Dismukes, J.P., 295 Doebele, H.F., 702 D'Olieslaeger, M., 912 Donnelly, K., 702 Dorsch, O., 983 Doverspike, K., 821 Dowling, D.P., 702 Downing, R.G., 728 Drawl, W., 431 Drescher, D., 732

Ebert, W., 887 Ece, M., 495, 747 Eddy, Jr., C.R., 105 Eersels, L., 613 Ehrhardt, H., 245, 337, 506, 608, 1034 Eizner, B.A., 1352

Drummond, I.C., 56, 486

Dworschak, W., 337, 1034

Dub, S.N., 116, 198

Elinson, V.M., 143
Ellis, P.J., 382, 926
Engdahl, N.C., 431
Engel, W., 1227
Engemann, J., 1256
Eränen, S., 1301
Erdemir, A., 119
Ersoy, A., 983
Eskildsen, S.S., 902
Esteve, J., 492, 628
Eun, K.Y., 1230
Everitt, N.M., 783, 810, 939, 1375

Fahrner, W.R., 947 Falke, U., 1097 Fanciulli, M., 844, 878 Farhat, S., 581 Farías, M., 831 Farías, M.H., 177 Fayer, A., 805 Fayette, L., 438, 480 Fehrenbacher, M., 173 Feng, K.A., 155 Fiegl, B., 658 Flemig, G., 1091 Flemish, J.R., 672 Flöter, A., 1097 Fontaine, F., 623, 654, 737, 836 Foord, J.S., 602, 706 Fournier, D., 752 Fox, B.A., 382 Franceschini, D.F., 88 Francz, G., 696, 1289 Frauenheim, Th., 245, 462, 966, 1056 Freire, Jr., F.L., 88 Freitas, Jr., J.A., 821 Fries, Th., 711 Frischholz, M., 980 Fryda, M., 1040 Fukunaga, O., 75 Füßer, H.J., 1178

Gabrusenok, E.V., 1325 Galluzzi, F., 874 Gamulya, G.D., 1381 Gaskell, P.H., 369 Gavrilov, N.V., 779 Geier, S., 510, 951 George, A., 569 Georgiou, E., 1128 Gerasimovich, S.S., 143 Gerber, J., 506 Germain, C., 598 Gheeraert, E., 623, 654, 737, 836 Gicquel, A., 581, 645, 752 Giling, L.J., 408 Gilkes, K.W.R., 369 Girault, C., 598 Gisbert, R., 598 Gissler, W., 770 Glass, J.T., 239, 1188 Glass, R.C., 382 Glesener, J.W., 173 Gómez-Aleixandre, C., 1183 Gonon, P., 623, 654, 836 Gontar, A.G., 259

Gorpinchenko, S.D., 775, 779
Goruppa, A.A., 83, 1223
Graebner, J.E., 254
Graham, W.G., 702
Grahn, K., 1301
Grant, D.M., 83, 1120, 1223
Grasserbauer, M., 638, 1360
Graupner, R., 891
Green, S.M., 83
Griesser, M., 638
Grigorov, V.A., 936
Grill, A., 281
Guo, H., 319
Guo, J.-H., 1
Guseva, M.B., 328

Habermeier, H.U., 747 Hackenberger, L.B., 728 Hahn, J.H., 163 Hamakawa, Y., 177 Hammer, P., 770, 1103 Hammerschmidt, A., 980 Hannula, S.-P., 1107 Han, S., 1230 Hansen, J.B., 564 Haq, S., 593 Has, Z., 896 Hashmi, M.S.J., 551 Hassouni, K., 581 Haubner, R., 638, 681, 757, 1360 Haupt, J., 770 He, X.-M., 1319 Heberlein, J., 319 Heggie, M.I., 1370 Heimann, R.B. 1151 Helbig, R., 980 Helmbold, A., 1103 Herres, N., 373, 1308 Hessmer, R., 510, 951 Higgins, M., 702 Hino, T., 1072 Hirata, G.A., 177 Hirvonen, J.-P., 52, 1107 Hitchcock, L.M., 195 Hoffman, A., 691, 805 Hofmann, S., 747 Hofsäss, H., 137 Hong, B., 431 Hong, T.-M., 632 Hontzopoulos, E., 1128 Hsu, S.E., 443 Hu, E.-L., 222

Ichinose, Y., 452 Iida, M., 30, 35 Ikawa, H., 75 Ingram, D.C., 1227 Irie, M., 1072 Ishibashi, K., 883 Ishiguro, T., 452 Ivanov, A.I., 1045 Iwaki, M., 47, 1117 Iwasaki, T., 30

Humphreys, T.P., 883

Hundhausen, M., 891

Hwang, N.M., 163

Jackel, R., 732 Jackman, R.B., 602, 706 Jacobs, R., 613 Jacquot, P., 41 Jakovlev, G.D., 147 Jakubowski, A., 720, 868, 896 Janischowski, K., 891 Jauberteau, J.L., 560 Jelínek, M., 1128 Jenkins, C.E., 926 Jiang, X., 957, 1315 Jin, S., 254, 878 Johansson, E., 1 John, P., 56, 388, 486 Johnston, C., 393, 983, 1265 Joksch, M., 681 Jones, A.M., 205, 1265 Jones, R., 1370 Jubber, M.G., 56, 388, 486 Jung, K., 245, 337, 506, 608, 1034 Jungnickel, G., 245, 462, 1056

Käding, O.W., 1178 Kalbitzer, S., 917 Kalish, R., 542, 677 Kalnin, A.A., 346 Kammlott, G.W., 254 Kamo, M., 975 Kania, P., 696, 1289 Karasutani, K., 618 Karim, M.Z., 551 Karumidze, G.S., 14 Kataoka, H., 618 Katiyar, R.S., 177 Katsumata, S., 1296 Kattelus, H., 1107 Kawarada, H., 961 Keay, J.C., 1227 Kelly, T.C., 702 Kessler, B., 1103 Kester, D.J., 332 Khong, Y.L., 737, 821, 1023 Khvostov, V.V., 328 Kingsley, C.J., 706 Kiyota, H., 30, 35 Klages, C.P., 957, 1040 Kleber, R., 245 Klein, P.B., 821 Klumpp, T., 137 Knowles, K.M., 1048 Ko, H.W., 443 Kobashi, K., 618 Koch, F., 658 Koczy, B., 896 Kohl, R., 373, 1308 Kohn, E., 887 Koidl, P., 373, 825, 1091, 1308 Komarov, V.F., 160 Kondoh, E., 270 Konkov, O.I., 1356 Kordesch, M.E., 1066, 1227 Kornas, V., 702 Koskinen, J., 52, 1107, 1329 Kowalski, B., 840 Krötz, G., 917

Kubelka, S., 1360

Kubler, L., 264, 1279 Kühn, M., 1056 Kuhnert, R., 658 Kuhr, M., 341 Kuivalainen, P., 1301 Kulik, J., 542 Kulisch, W., 341, 555 Künzelmann, U., 732 Kurosu, T., 30, 35 Kusakabe, K., 398, 1072 Kuzmina, E.V., 775

Lade, H., 799, 1308 Lahres, M., 765 Laimer, J., 231, 470 Lake, M.L., 1243, 1249 Lamaze, G.P., 728 Landstrass, M.I., 672 Lang, T., 470 Lappalainen, R., 52 Laptev, V.A., 711 Latham, C.D., 1370 Laufer, S., 1235 Lawler, J.E., 422 Le Huu, T., 787, 1028 Le Normand, F., 569 Lebedev, A.A., 1393 Lebout, R., 98, 912 Lee, K.-R., 1230 Leers, D., 799, 1308 Lefebvre, M., 581 Lempert, G.D., 542 Leo, G., 874 Ley, L., 861, 891 Li, H.-D., 1319 Li, S.-J., 222 Li, W.-Z., 1319 Lifshitz, Y., 542 Likonen, J., 1329 Lin, Z.D., 155 Link, F., 638 Liou, Y., 573 Lipiński, A., 858 Loh, M.H., 417 Lorent, R., 98, 912 Louda, P., 896 Lucazeau, G., 438, 623 Lugscheider, E., 325

Ma, W., 177
Ma, Y.-R., 573
Macaulay, J.M., 1066
Machi, Y., 403
Maeda, H., 398, 1072
Maekawa, H., 30
Maier, K., 825
Mainz, B., 663, 1097, 1235
Mal'nev, V.I., 198
Malta, D.M., 382
Mandel, Th., 980
Mano, F., 618
Mansour, A., 264, 1279
Marciniak, J., 896

Lupich, I.N., 116

Lux, H., 277, 638

Lux, B., 638, 681, 757, 1360

Marcus, B., 438, 480 Mariotto, G., 88 Marks, N.A., 353 Martinovich, E.F., 936 Marton, D., 542, 1277 Maruyama, B., 173 Maslyuk, B.A., 116 Massey, M.J., 177 Masuda, S., 398 Mathis, B.S., 426 Matsumae, Y., 30 Matsumoto, S., 231 Matsumoto, Y., 177 Matsushima, E., 30 Matthews, A., 902 Matthias, E., 1178 May, P.W., 783, 810, 939, 1375 McCabe, A.R., 205, 1265 McCarty, K.F., 22

McCauley, T.S., 1087 McClure, M.T., 239 McColl, I.R., 83, 1120 McCormack, M., 254 McCune, R.C., 1270 McKenzie, D.R., 353 Mehlmann, A.K., 805 Mehta, B.R., 10 Meissner, D., 1103 Melnikov, A.A., 947 Méndez, J.M., 831 Meneve, J., 613 Menningen, K.L., 422 Mermoux, M., 438, 480 Messeguer, F., 715 Messier, R., 431, 728 Messina, G., 942 Michel, H., 520 Michel, J.P., 569 Milne, D.K., 56, 388, 486 Milne, W.I., 476 Mima, H., 452

Miyadera, H., 313 Mizgulin, V.N., 779 Mokrousov, S.L., 147 Moore, V., 983 Morooka, S., 398, 1072 Morosanu, C.O., 814 Morrish, A.A., 173 Morrow, T., 702

Minevich, A.A., 1352

Mironov, V.P., 936

Mitura, E., 868, 896

Mitura, S., 853, 858, 896, 899

Mitomo, T., 270

Morosanu, C.O., 814 Morrish, A.A., 173 Morrow, T., 702 Moulin, S., 426, 577 Moustakas, T.D., 878 Muhl, S., 831 Müller, G., 917

Müller-Hummel, P., 765 Müller-Sebert, W., 373, 1091 Münzinger, P.C., 515 Muranaka, Y., 313

Murray, P.T., 1124 Mycielski, W., 858

Nachal'naya, T.A., 1325 Nadolinny, V., 1196

Nadolinny, V.A., 17 Nakano, S., 75 Natishan, P.M., 173 Nechaev, A.A., 779 Neethling, J.H., 168 Nemanich, R.J., 883 Nery, H., 1028 Nesladek, M., 98, 912 Neubert, F., 346 Ng, K.Y.S., 1270 Nichols, F.A., 119 Niedzielski, P., 896, 899 Nishibayashi, Y., 1389 Nordgren, J., 1 Novikov, N.V., 61, 198 Nowak, J.F., 1112 Nyberg, T., 528

Obermeier, E., 983 Obraztsov, A.N., 328 O'Brien, T.P., 702 Oelhafen, P., 696, 1289 Ogryzlo, E.A., 10 Ohta, T., 270 Ohtsuka, K., 270 Okamoto, H., 177 Okano, K., 30, 35 Olborska, A., 899 Olšan, V., 1128 Olszyna, A., 720, 840 Onoprienko, A.A., 1132 Oobuchi, Y., 1296 Oral, B., 495, 747 Ostapenko, I.L., 1381 Ostrovskaya, Ye.L., 1381 Osvet, A., 725

Padiyath, R., 210 Pailthorpe, B.A., 353 Pan, X.Z., 119 Paoletti, A., 126, 942 Parikh, N.R., 883 Parker, K., 83 Parker, K.L., 1120 Parker, T.L., 83, 1120 Paroli, P., 126 Patel, V., 281 Paulmier, D., 787, 1028 Pealat, M., 581 Peeler, D.T., 1124 Pehrsson, P.E., 173 Perov, P.I., 143 Petrov, E.A., 160 Pezoldt, J., 346 Pfender, E., 319 Piekarczyk, W., 66 Pilione, L.J., 728 Pintér, I., 126 Pischow, K., 1107 Plamann, K., 752 Plano, M.A., 672 Plotnikov, S.A., 775, 779 Pöckelmann, R., 1040 Polo, M.C., 492, 628 Polushkin, V.M., 531, 1385 Polyakov, S.N., 531

Polyakov, V.I., 143 Pongratz, P., 681 Porath, R., 805 Porezag, D., 966 Porter, L.M., 883 Prater, J.T., 239 Prawer, S., 66 Presnyakova, G.N., 1381 Prijaya, N.A., 129

Prins, J.F., 922 Puigdollers, J., 628 Putnis, A., 1048 Pypkin, B.N., 871

Rabalais, J.W., 542, 1277

Raiko, V., 1256

Rakhimov, A.T., 531, 1385

Ralko, A.P., 1352 Rau, C., 555

Rauschenbach, B., 510 Reck, G.P., 195 Recknagel, E., 137 Reece, D.M., 1137

Rego, C.A., 783, 810, 939, 1375

Reinke, S., 341 Remer, P., 325 Rice-Evans, P.C., 1293 Richter, F., 1056 Ristein, J., 861, 891 Rizikov, I.V., 1045 Robertson, J., 361 Robins, L.H., 878 Rogacki, G., 868 Rohwer, K., 1103 Romani, S., 393, 983 Romanko, L.A., 259

Ronkainen, H., 1329

Rösler, M., 1178

Rosser, K.N., 783, 810, 939, 1375

Rossman, G.R., 94 Rothe, E.W., 195 Rothemund, W., 825 Rotter, S., 542 Rubarth, B., 1103 Rubshtein, A.P., 688, 775 Rusetskii, M.S., 711 Rusli, X., 817 Rylski, A., 899

Saitoh, H., 452 Sakovich, G.V., 160 Saleh, A.S., 1293 Samlenski, R., 1091 Samorodov, V.A., 1385 Sánchez, O., 715, 1183 Sandré, E., 448 Santangelo, S., 942 Saparin, G.V., 1337 Sartwell, B.D., 105 Sasaki, H., 961 Sato, Y., 975 Sattel, S., 245, 608 Savage, J.A., 486, 593, 1137 Scarsbrook, G.A., 303, 932, 1158, 1168, 1173

Schaarschmidt, G., 1097, 1235

Schäfer, J., 861

Schauer, S.N., 672 Scheibe, H.-J., 732 Schermer, J.J., 408 Schlump, W., 325

Schreck, M., 510, 951 Schuhrke, T., 663 Schulze, S., 1097 Schwan, J., 1034

Schwarzbach, D., 757 Schwarzbauer, H., 658

Scott, C.D., 581 Sekiguchi, A., 47

Sellschop, J.P.F., 151

Seth, J., 210

Shaginyan, L.R., 1132 Shengelia, L.A., 14 Shikata, S., 1389 Shimada, Y., 403 Shimokawa, M., 231 Shirafuji, J., 618

Shovlin, J.D., 1066 Shulaev, V.M., 525 Sideras-Haddad, E., 151 Sigov, A.S., 147

Sildos, I., 725 Silva, S.R.P., 817, 1048 Sivazlian, F.R., 382 Six, R., 1040 Skytt, P., 1 Sleptsov, V.V., 143

Smeets, J., 613 Sobisch, B., 555 Sohr, O., 506

Sokołowska, A., 853, 858, 896

Soto, G., 831 Soukup, L., 1128 Southworth, P., 926 Spinnewyn, J., 98, 912 Spitzl, R., 1256 Staryga, E., 858, 865 Steiner, R., 1360 Stelmakh, V.F., 711 Stemmet, M.C., 151

Stephan, U., 245, 462, 966, 1056 Stiegler, J., 663, 1097, 1235 Stingeder, G., 638, 1360

Stoica, T., 814

Stoner, B.R., 382, 926, 1188

Störi, H., 470

Strel'niskij, V.E., 525, 1381 Stritzker, B., 510, 951 Suetin, N.V., 531, 1385 Sugino, T., 618 Sumiya, H., 1389 Suni, I., 1107

Sussmann, R.S., 303, 1158, 1168, 1173

Svechnikov, G.S., 1045 Sweeney, C.G., 303, 1158 Swider, M., 899

Szmidt, J., 650, 720, 840, 849, 853, 868, 896

Tagliaferro, A., 547, 814, 844 Takahashi, K., 47, 1117 Tamor, M.A., 1270 Tebano, A., 126 Terukov, E.I., 1356

Theunissen, G.S.A.M., 799

Thiele, J.-U., 1103 Thomas, L., 560 Thomas, R.M., 810 Tiefel, T.H., 254

Timofeyev, M.A., 531, 1385 Ting, J.-M., 1243, 1249 Tkach, V.N., 112 Todorov, S.S., 1277 Tomikawa, T., 1389 Tossell, D.A., 1137 Toyoda, H., 422

Trakhtenberg, I.Sh., 688, 775, 779

Trapeznikova, I.N., 1356 Trevor, C.G., 1375 Tsugawa, K., 961 Tucciarone, A., 942 Tugarev, V.A., 531 Tunnicliffe, D.L., 593 Turban, G., 645

Ueda, Y., 422 Ullmann, J., 663 Uzan-Saguy, C., 542

Valentine, T.J., 303, 1168 Valioullova, Z.Kh., 328 van Enckevort, W.J.P., 408 Varichenko, V.S., 711, 947 Varjus, S., 1329

Vasil'ev, V.V., 525 Vavilov, V.S., 147 Vázquez, L., 715

Veerasamy, V.S., 353, 608 Venter, A., 168 Vereschagin, A.L., 160 Verwoerd, W.S., 457 Vescan, A., 887 Vihersalo, J., 1329 Vijayarajah, W.C., 388 Vincenzoni, R., 874 Vivensang, C., 645 Vladimirov, A.B., 775 Vohra, Y.K., 1087 von Münch, W., 500 von Windheim, J.A., 239 Voronkin, M.A., 61, 116

Vykhodets, V.B., 688, 775

Wakagi, M., 431 Wandelt, K., 711 Wang, C., 1066 Wang, T.-C., 632 Wassdahl, N., 1 Watanabe, H., 1117 Wawrzyniak, P., 868 Weber, A., 663 Weber, T., 1235 Wei, R., 119, 534 Weiler, M., 245, 506, 608 Weis, O., 515, 741 Werner, M., 983 White, A.J., 476 Whitehead, A.J., 303, 1168

Wiebach, S., 500 Wiechert, D.U., 799, 1308 Wiell, T., 1
Wilbertz, Ch., 917
Wilbur, P., 119
Wilbur, P.J., 534
Wild, C., 373, 825, 1091
Williamson, E.C., 939, 1375
Wilson, J.I.B., 56, 388, 486
Wittstruck, R., 672
Wolowiec, R., 896, 899
Wolter, S.D., 1188
Wood, J.V., 83, 1120
Wood, R.M., 1173

Wort, C.J.H., 303, 932, 1158, 1168, 1173 Wurzinger, P., 638, 681

Yamashita, H., 313 Yelisseyev, A., 1196 Yelisseyev, A.P., 17 Yin, Y., 353 Yoshida, H., 1117 Youchison, D.L., 105 Yu, H.-C., 222 Yuan, J., 369 Zachai, R., 1178
Zaidi, H., 787, 1028
Zaitsev, A.M., 711, 947
Zaleskij, D.Yu., 525
Zhang, F., 1315
Zhang, W., 1315
Zhang, Y., 1315
Zhao, L.B., 155
Zhu, W., 1270
Zhuang, Q.D., 319
Zimmermann-Edling, W., 966

# **Cumulative Subject Index for Volume 3**

Absorption

Annealing of radiation damage in De Beers colourless CVD diamond, 932

Optical characterization of textured microwave CVD diamond, 593

Acetylene-oxygen flames

Luminescence studies of N- and B-doped diamond films,

Activation energy

Energetics of hydrogenic reactions at diamond surfaces calculated by local spin-density functional theoretical method, 1370

General diamond Schottky-barrier diode model from locus diagram analysis, 887

Trap distribution in thin DLC films, 865

Adhesion

Adhesion strength between a C film and a polymeric substrate, 116

Breakdown of a-C coatings on ion-implantation-modified metal alloys with a jet of abrasive particles, 779

CVD diamond growth on Ge for IR window applications,

Characterization of diamond films on binderless W-Mo composite carbide, 1270

Characterization of strength and adhesion of diamond films on metallic substrates using substrate plastic straining technique, 791

Diamond protective coatings for optical components, 1137 Improved adhesion of CVD diamond films to steel and WC-Co substrates, 98

Interaction of diamond with Mo during ion plasma deposition, 61

Influences of WC-Co hard metal substrate pre-treatments with B and Si on P diamond deposition, 1360

Interfacial characteristics of arc-discharge-deposited diamond-like films on 19 different substrate materials,

Investigation of CVD diamond-intermediate layer-steel interface, 912

Mechanical properties of IBD DLC on polymers, 205 Solubility and wettability of diamonds by metal melting in the range of their thermodynamic stability, 7

Spectroscopic and selected mechanical properties of DLC films synthesized by broad-beam ion deposition from

Wetting and bonding of diamond films by high melting point metals in the range of diamond thermodynamic stability, 1262

Amorphous

Characteristics of a-C: H: Si films deposited by r.f. sputtering under various deposition conditions, 547

Metal/insulator/metal-type structures based on amorphous C-Si alloys: electronic properties in dark and under illumination, 874

Amorphous carbon

Amorphous carbon—biomaterial for implant coatings,

Characterization by UV-visible and IR spectroscopy of thin DLC films prepared by Laser-Arc, 732 Detailed atomic structure of tetrahedral a-C, 369

Hydrogen-free amorphous carbon preparation and properties, 353

Effect of ion implantation on ion-plated DLC films, 1117

Incorporation of N2 into DLC films, 210

KrF laser photo-ablation of graphite target: application to development of thin films, 598

Metastable phases of carbon during fracture of diamond under ultrahigh compressive stresses, 1087

Molecular dynamic investigations of a-C:  $\pi$  bonding vs. electronic defect generation, 462

Practical use of strength and anticorrosion properties of a-C thin films, 775

Primary reaction processes in deposition of DLC films by photon-enhanced CVD of methane using windowless hydrogen lamp, 476

Removal of non-diamond carbon from the surface of CVD diamond films, 1227

Role of microstructure in forming thin carbon film properties, 1132

Structural modifications in a-C: H films doped and implanted with nitrogen, 88

Structure and chemical bonding in high density amorphous C, 1056

Temperature dependence analysis of EPR signal and electrical conductivity in a-C and a-C: H, 844

Wear properties and Raman spectroscopy of ionbombarded glass-like carbon, 47

Amorphous hydrogenated carbon

Adhesion strength between a C film and a polymeric substrate, 116

Ambiguous doping effects in a-C: H films prepared by PACVD, 1103

Biocompatibility of LT DLC films: TEM, SEM, cytotoxicity, 1120

Characterization of wear surfaces in dry sliding of steel and alumina on hydrogenated and hydrogen-free C

Density of states in amorphous Si, C and SiC from TOF measurement, 1356

Deposition mechanism of diamond-like a-C and a-C:H,

Electron microscopy of irradiation and thermal effects on C: H films, 688

Electronic DOS and deep defects of a-C:H, 861

Engineering applications for DLC, 902

Improved electronic properties of DLC films by HP postdeposition treatment, 980

Microstructures and mechanical properties of a-C:N:H films, 1034

Plasma beam deposition of highly tetrahedrally bonded a-C, 608

Structure of a-C:H: experiment and computer simulation,

Temperature dependence analysis of EPR signal and electrical conductivity in a-C and a-C: H, 844

Annealing

Annealing of radiation damage in De Beers colourless CVD diamond, 932

Electron microscopy of irradiation and thermal effects on C: H films, 688

Improved electronic properties of DLC films by HP postdeposition treatment, 980

Influence of annealing on resistance of polycrystalline CVD diamond films: surface chemical effect, 654

Influence of surface treatment on electronic structure of CVD diamond films, 891

New paramagnetic centres containing Ni ions in diamond, 17

Reality of doping by B implantation of CVD polycrystalline diamond from comparison of Raman and electrical measurements, 623

Spectral response of photoconductivity of polycrystalline CVD diamond films, 836

Thin-film SiC as optical and optoelectronic material, 917 Application

Thin hydrogenated α-C: H films in semiconductor/ diamond-like film single-crystal heterostructures, 143

Amorphous carbon—biomaterial for implant coatings, 899

Application of diamond-like layers as gate dielectric in metal/insulator/semiconductor transistor, 853

DLC coatings for biomedical applications, 896

Diamond films as thermal conductors and electrical insulators applied to semiconductor power modules, 658

Diamond-like layers as passivation coatings for power bipolar transistors, 849

Laser materials based on diamond with GR1 centers, 936 Practical use of strength and anticorrosion properties of a-C thin films, 775

Superconducting films on diamond by pulsed laser deposition, 747

Trends and market perspectives for CVD diamond, 295 Atomic force microscopy

Nanolayered gradient structures as intermediate layer for diamond coatings, 1107

Atomic hydrogen

Effect of atomic hydrogen on DLC film production, 702 Influence of surface treatment on electronic structure of CVD diamond films, 891

Measurement of atomic hydrogen in hot filament reactor by two-photon LIF, 587

Quasi-equilibria of gaseous species in C-H system, 470 Role of accelerated electrons on diamond formation processes during electron-assisted CVD, 452

Worldwide status of LT growth of diamond, 313 Atomic species

KrF laser photo-ablation of graphite target: application to development of thin films, 598

## Band structure

Cathodoluminescence spectroscopy of diamond films and ceramics, 147

Density of states in amorphous Si, C and SiC from TOF measurement, 1356

Formation of ohmic contacts on semiconducting diamond grown by CVD, 30

MD investigations of amorphous carbon:  $\pi$  bonding vs. electronic defect generation, 462

PES of CVD diamond, 1289

Stabilization of diamond relative to different substrate-carbon interfaces: nucleation model for CVD diamond growth based on charge transfer consideration, 448 Thin hydrogenated α-C: H films in semiconductor/ diamond-like film single-crystal heterostructures, 143 Trap distribution in thin DLC films, 865

Behaviour

Sintering of ultrafine diamond particles under HTHP, 222 Biased heated filament CVD

Role of accelerated electrons on diamond formation processes during electron-assisted CVD, 452

**Biocompatibility** 

LT PACVD of amorphous C films for biomedical-polymeric substrates, 83

**Bonding** 

Fine structure in secondary electron emission spectrum as spectroscopic tool for carbon surface characterization, 691

Wetting and bonding of diamond films by high melting point metals in the range of diamond thermodynamic stability, 1262

Boron carbide

Isotopic effect of B<sub>4</sub>C thermal conductivity, 14

Boron doping

B-doped diamond films using trimethylborate as dopant source in CH<sub>4</sub>-CO<sub>2</sub> gas mixtures, 632

Characterization of defects in B implanted CVD diamond films by EPR and cathodoluminescence, 737

Characterization of undoped and doped homoepitaxial diamond layers produced by microwave plasma CVD, 515

Epitaxial nucleation, growth and characterization of highly oriented, (100)-textured diamond films on Si, 382

Luminescence studies of N- and B-doped diamond films, 821

Nucleation and growth of CVD diamond on magnesium oxide (100) and titanium nitride-magnesium oxide (100) surfaces, 393

Reality of doping by B implantation of CVD polycrystalline diamond from comparison of Raman and electrical measurements, 623

Topology of synthetic, B-doped diamond by STM, 94 Valence band PES and structural morphology of N- and B-containing MPACVD diamond films, 696

Boron nitride

Deposition and characterization of BN thin films, 332 Optical properties of BN thin films, 831 Optical properties of E-BN, 840

p-n Junction diode by B-doped diamond heteroepitaxially grown on Si-doped c-BN, 1389

Buffer layer

Diamond films grown on p-type microcrystalline-SiC: H/crystalline-Si substrates, 177

Improved adhesion of CVD diamond films to steel and WC-Co substrates, 98

Superconducting films on diamond by pulsed laser deposition, 747

**Bulk diamond** 

Laser damage testing of CVD-grown diamond windows, 1173

Metastable phases of carbon during fracture of diamond under ultrahigh compressive stresses, 1087

Thermal properties of bulk polycrystalline CVD diamond, 1158

# CVD microwave

Diamond luminescence: resolved donor-acceptor pair recombination lines, 825

Effect of substrate material on bias-enhanced diamond nucleation, 1188

Optical characterization of textured microwave CVD diamond, 593

p-n Junction diode by B-doped diamond heteroepitaxially grown on Si-doped c-BN, 1389

STM nanometric study of initial stages of diamond film growth: quantitative measurement of {111} and {100} surface roughness, 725

#### Carbide

Interfacial characteristics of arc-discharge-deposited diamond-like films on 19 different substrate materials, 52

Investigation of Co behaviour during diamond deposition on cemented carbides, 805

Real-time, in situ PEEM observation of CVD diamond oxidation and dissolution on Mo, 1066

#### Carbon

Innovative semiconductor base—

diamond/(carbon-carbon) composite, 1243

Passivation of carbon fiber by diamond deposition, 1249

Search for CN<sub>x</sub> compounds with a high nitrogen content by ECR plasma deposition, 264

Study of Ar-CH<sub>4</sub>-H<sub>2</sub> microwave post-discharge under diamond deposition conditions: correlations between analysis performed in gas phase and in C thin films, 560

#### Carbon chains

Linear finite carbon chains (carbynes): role during dynamic transformation of graphite to diamond; geometric and electronic structure, 1151

## Catalytic processes

Synthesis of c-BN using Li<sub>3</sub>BN<sub>2</sub>, Sr<sub>3</sub>B<sub>2</sub>N<sub>4</sub> and Ca<sub>3</sub>B<sub>2</sub>N<sub>4</sub> as solvent-catalysts, 75

## Cathodoluminescence

B-doped diamond films using trimethylborate as dopant source in CH<sub>4</sub>-CO<sub>2</sub> gas mixtures, 632

Cathodoluminescence of oriented diamond films, 926

Cathodoluminescence spectroscopy of diamond films and ceramics, 147

Characterization of defects in B implanted CVD diamond films by EPR and cathodoluminescence, 737

Diamond based light emitting structures, 947

Diamond luminescence: resolved donor-acceptor pair recombination lines, 825

Electronic characterization of diamond films prepared by ECR microwave plasma, 878

Luminescence decay time studies and time-resolved CL spectroscopy of CVD diamond, 1023

Microcharacterization of CVD diamond films by SEM, 1337

Synthetic diamond-based detector of ionized radiation, 259

## Characterization

Analysis of c-BN thin films by neutron depth profiling, 728

Cathodoluminescence spectroscopy of diamond films and ceramics, 147

Comparison of (CH<sub>4</sub>-O<sub>2</sub>)-H<sub>2</sub> and CO-H<sub>2</sub> plasmas for LT diamond film deposition by ECR-PACVD, 105

Doping and growth of DLC films by IBD, 137

Flame deposition and characterization of large type IIA diamond single crystals, 408

Growth and characterization of P doped diamond films, 672

Influences of WC-Co hard metal substrate pre-treatments with B and Si on LP diamond deposition, 1360

LT PACVD of amorphous C films for biomedical-polymeric substrates, 83

PES of CVD diamond, 1289

Photothermal examination of heat diffusion inhomogeneity in diamond films of submicron thickness, 752

Raman and X-ray studies of polycrystalline CVD diamond films, 1308

Soft X-ray emission of HFCVD diamond films, 1

Time-dependent perturbed angular distribution studies of CVD diamond, 151

Ultrafine diamond clusters from detonation synthesis, 160 Wear testing of CVD diamond films, 799

## Chemical vapor deposition

Atomic steps in CVD diamond growth, 155

CVD diamond wires and tubes, 810

Characterization of diamond films by slow positrons, 1293

Chemical basis of C-H-O phase diagram in diamond plasma depositions, 126

Comparative study of adsorption of hot filament activated hydrocarbons on Si, gallium arsenide and CVD diamond, 706

Diamond films grown on p-type microcrystalline-SiC: H/crystalline-Si substrates, 177

Diamond tubes and fibers, 173

Doping of diamond, 35

Heteroepitaxial growth of diamond on c-BN in microwave plasma, 398

Laser damage testing of CVD-grown diamond windows, 1173

Mechanical property measurements of bulk polycrystalline CVD diamond, 1168

Thermochemical computation of the diamond deposition domain, 129

Time-dependent perturbed angular distribution studies of CVD diamond, 151

# Closed gas circuit

New method of diamond CVD with closed gas circuit, 1040

## Colour contrast

Microcharacterization of CVD diamond films by SEM,

## Combustion flame CVD

Effect of native SiO<sub>2</sub> layer on nucleation of diamond using combustion flame, 239

Flame deposition and characterization of large type IIA diamond single crystals, 408

Luminescence decay time studies and time-resolved CL spectroscopy of CVD diamond, 1023

## Crystal growth

Effect of gas-phase composition on surface morphology of polycrystalline diamond films, 270

Superheating around diamonds in directly heated HPHT diamond growth cell, 227

# Crystalline inclusion

Microstructure of inclusions in nanocrystalline C films deposited at low temperature, 1048

# Cubic boron nitride

Analysis of c-BN thin films by neutron depth profiling, 728

Electrical behaviour and breakdown in plasma deposited c-BN layers, 720

Evaluation of composite Ni matrix coatings with c-BN

interstitials on Ti applied by cathodic arc evaporation, 1352

Growth of c-BN coatings in magnetic field enhanced r.f. glow discharge, 337

Heteroepitaxial growth of diamond on c-BN in microwave plasma, 398

Mechanisms in ion induced c-BN growth, 341

Parallel vs. diagonal epitaxy models of diamond and c-BN on Si(001), 457

Plasma diagnostics in growth of c-BN films, 551

Selective etching of c-BN layers, 650

Synthesis of c-BN using Li<sub>3</sub>BN<sub>2</sub>, Sr<sub>3</sub>B<sub>2</sub>N<sub>4</sub> and Ca<sub>3</sub>B<sub>2</sub>N<sub>4</sub> as solvent-catalysts, 75

Cutting tool

IR temperature measurement on diamond-coated tools during machining, 765

D.c. bias measurements

Influence of annealing on resistance of polycrystalline CVD diamond films: surface chemical effect, 654

Investigations of diamond nucleation of a-C films generated by d.c. bias and microwave plasma, 506

D.c. plasma CVD

Absolute radical density measurements in  $CH_4$ – $H_2$  d.c. discharge, 422

DLC film deposition on plasma nitrided steel substrates, 1112

Extensive diamond film deposition by d.c. plasma jet CVD, 325

OES of plasma processes in d.c. discharge during diamond film deposition, 1385

Defects

Characterization of diamond coatings with TEM, 681 Characterization of diamond films by slow positrons, 1293 Electrophysical properties of SiC epitaxial films, 1393

MD investigations of a-C:  $\pi$  bonding vs. electronic defect generation, 462

STM of diamond irradiated with high energy ions, 711 Deposition

Arc discharge plasma torch for diamond coating deposition, 525

Characteristics of a-C: H: Si films deposited by r.f. sputtering under various deposition conditions, 547

Deposition of thin highly dispersive diamond films deposition by laser ablation, 328

Diamond film deposition by downstream d.c. glow discharge plasma CVD, 531

Engineering applications for DLC, 902

OES of plasma processes in d.c. discharge during diamond film deposition, 1385

Primary reaction processes in deposition of DLC films by photon-enhanced CVD of CH<sub>4</sub> using windowless hydrogen lamp, 476

Properties of carbon films deposited by laser ablation, 1128

Selective etching of c-BN layers, 650

Deposition mechanism

Deposition mechanism of diamond-like a-C and a-C:H, 361

Growth of c-BN coatings in magnetic field enhanced r.f. glow discharge, 337

Primary reaction processes in deposition of DLC films by photon-enhanced CVD of CH<sub>4</sub> using windowless hydrogen lamp, 476

Structure of a-C:H: experiment and computer simulation, 245

Device

Diamond based light emitting structures, 947

Improved electronic properties of DLC films by HP postdeposition treatment, 980

p-n Junction diode by B-doped diamond heteroepitaxially grown on Si-doped c-BN, 1389

Diamond

Arc discharge plasma torch for diamond coating deposition, 525

Atomic steps in CVD diamond growth, 155

B-doped diamond films using trimethylborate as dopant source in CH<sub>4</sub>-CO<sub>2</sub> gas mixtures, 632

Capacitively coupled r.f. plasma sources: viable approach for CVD diamond growth? 602

Characterization of diamond films by slow positrons, 1293

Comparison of (CH<sub>4</sub>-O<sub>2</sub>)-H<sub>2</sub> and CO-H<sub>2</sub> plasmas for LT diamond film deposition by ECR-PACVD, 105

Diamond power transistor performance, 1301

Determination of diamond film quality during growth using in situ Raman spectroscopy, 22

Diamond films grown on p-type microcrystalline-SiC: H/crystalline-Si substrates, 177

Diamond growth from mixture of fluorocarbon and hydrogen in microwave plasma, 1072

Diamond tubes and fibers, 173

Effect of filament temperature on growth of diamond using hot-filament CVD, 168

Effect of native SiO<sub>2</sub> layer on nucleation of diamond using combustion flame, 239

Energetics of hydrogenic reactions at diamond surfaces by local spin-density functional theoretical method, 1370

Epitaxial Cu contacts on semiconducting diamond, 883

Epitaxial nucleation, growth and characterization of highly oriented, (100)-textured diamond films on Si, 382

Fine structure in secondary electron emission spectrum as spectroscopic tool for C surface characterization, 691

Fundamental limits to growth rates in methane-hydrogen microwave plasma, 56

Heteroepitaxial growth of diamond on c-BN in microwave plasma, 398

Improved adhesion of CVD diamond films to steel and WC-Co substrates, 98

Influences of WC-Co hard metal substrate pre-treatments with B and Si on LP diamond deposition, 1360

Interfacial layer effects in growth of CVD diamond, 492
Investigation of Co behaviour during diamond deposition

Investigation of Co behaviour during diamond deposition on cemented carbides, 805

Investigation of bias nucleation process in microwave PECVD of diamond, 555

LT thinning of thick CVD diamond films with molten Ce-Ni alloy, 254

Linear finite carbon chains (carbynes): role during dynamic transformation of graphite to diamond; geometric and electronic structure,1151

Low temperature growth of diamond films by microwave plasma CVD using CH<sub>4</sub>+CO<sub>2</sub> gas mixtures, 443

Mechanical property measurements of bulk polycrystalline CVD diamond, 1168

Morphometric analysis of diamond crystals elaborated by microwave PACVD: application to textured films, 520

New method of diamond CVD with closed gas circuit, 1040

New paramagnetic centres containing Ni ions in diamond, 17

Nucleation and growth of CVD diamond on magnesium

oxide (100) and titanium nitride-magnesium oxide (100) surfaces, 393

Nucleation and growth of diamond on a well-defined Si(311) substrate monitored by *in-vacuo* surface analysis, 569

Nucleation of diamond on graphitic carbon, 495 Optical characterization of textured microwave CVD diamond, 593

Passivation of carbon fiber by diamond deposition, 1249 STM of diamond irradiated with high energy ions, 711 Search for diffusion of Li implants in natural and polycrystalline CVD diamond, 677

Sintering of ultrafine diamond particles under HTHP, 222 Soft X-ray emission of HFCVD diamond films, 1 Solubility and wettability of diamonds by metal melting in

Solubility and wettability of diamonds by metal melting in the range of their thermodynamic stability, 7

Stabilization of diamond relative to different substrate—C interfaces: nucleation model for CVD diamond growth based on charge transfer consideration, 448

Superheating around diamonds in directly heated HPHT diamond growth cell, 227

Thermochemical computation of diamond deposition domain, 129

Time-dependent perturbed angular distribution studies of CVD diamond, 151

Trimethylboron doping of CVD diamond thin films, 628 Diamond defects

Cathodoluminescence and electroluminescence in ion implanted type II diamonds, 922

Characterization of defects in B implanted CVD diamond films by EPR and cathodoluminescence, 737

Characterization of strength and adhesion of diamond films on metallic substrates using substrate plastic straining technique, 791

Epitaxial nucleation, growth and characterization of highly oriented, (100)-textured diamond films on Si, 382

## Diamond films

CVD diamond wires and tubes, 810

Cathodoluminescence of oriented diamond films, 926 Characterization of diamond films by slow positrons, 1293 Characterization of diamond films on binderless W–Mo

composite carbide, 1270

Characterization of Ta impurities in hot-filament diamond layers, 638

Characterization of strength and adhesion of diamond films on metallic substrates using substrate plastic straining technique, 791

Comparison of two models of thin diamond film microhardness data to predict hardness of CVD diamond, 783

Deposition of diamond films on sapphire: interfacial properties and patterning techniques, 1375

Deposition of thin highly dispersive diamond films deposition by laser ablation, 328

Diamond deposition on porous silicon by PACVD, 1256 Diamond film deposition by downstream d.c. glow discharge plasma CVD, 531

Diamond films as thermal conductors and electrical insulators applied to semiconductor power modules, 658

Effect of substrate temperature distribution on thermal plasma jet CVD of diamond, 319

Electronic characterization of diamond films prepared by ECR microwave plasma, 878

Growth and characterization of P doped diamond films, 672

Growth of diamond in pulsed microwave discharge, 231 High-field conductivity of polycrystalline diamond films, 957

Internal stresses in CVD diamond layers, 757

Microcharacterization of CVD diamond films by SEM, 1337

OES of plasma processes in d.c. discharge during diamond film deposition, 1385

Parallel vs. diagonal epitaxy models of diamond and c-BN on Si(001), 457

Plasma discharges in diamond deposition with different O<sub>2</sub> concentrations, 1183

Real-time spectroscopic ellipsometry studies of diamond film growth by microwave PECVD, 431

Role of nucleation step in growth rate of diamond films,

Scanning laser microscopy as tool for *in situ* investigation of diamond growth, 741

Simulation of electron-scattering properties of diamond membranes in X-ray mask fabrication, 942

Superconducting films on diamond by pulsed laser deposition, 747

Valence band PES and structural morphology of N- and B-containing MPACVD diamond films, 696

Wetting and bonding of diamond films by high melting point metals in the range of diamond thermodynamic stability, 1262

In-situ Raman investigation of diamond films during growth and etching processes, 438

Diamond nucleation

Comparative study of adsorption of hot filament activated hydrocarbons on Si, gallium arsenide and CVD diamond, 706

Investigations of diamond nucleation on a-C films generated by d.c. bias and microwave plasma, 506

PES of CVD diamond, 1289

Real-time, in situ PEEM observation of CVD diamond oxidation and dissolution on Mo, 1066

Selective growth of diamond using iron catalyst, 403 Stability and reconstruction of diamond (100) and (111) surfaces, 966

Study of Ar-CH<sub>4</sub>-H<sub>2</sub> microwave post-discharge under diamond deposition conditions: correlations between analysis performed in gas phase and in carbon thin films, 560

Diamond powders

Shift of frequency and Stokes-anti-Stokes ratio of Raman spectra from diamond powders, 1325

Diamond substrates

Characterization of diamond films on binderless W-Mo composite carbide, 1270

Diamond synthesis

Characterization of undoped and B-doped polycrystalline diamond films synthesized by hot-filament CVD using methanol, 618

Extensive diamond film deposition by d.c. plasma jet CVD, 325

Flame deposition and characterization of large type IIA diamond single crystals, 408

Growth of diamond in pulsed microwave discharge, 231 Innovative semiconductor base—

diamond/(carbon-carbon) composite, 1243

Measurement of atomic hydrogen in a hot filament reactor by two-photon LIF, 587 Role of accelerated electrons on diamond formation processes during electron-assisted CVD, 452

Selective growth of diamond using iron catalyst, 403 Diamond-like carbon

Application of diamond-like layers as gate dielectric in metal/insulator/semiconductor transistor, 853

C films deposited by PVD focused-arc evaporation, 41 Cathodoluminescence spectroscopy of diamond films and ceramics, 147

Characterization by UV-visible and IR spectroscopy of thin DLC films prepared by Laser-Arc, 732

DLC coatings for biomedical applications, 896

DLC film deposition on plasma nitrided steel substrates, 1112

Deposition mechanism of diamond-like a-C and a-C:H,

Detailed atomic structure of tetrahedral a-C, 369

Diamond-like layers as passivation coatings for power bipolar transistors, 849

Direct electrical control of DLC growth by PECVD, 1223 Doping and growth of DLC films by IBD, 137

Effect of atomic hydrogen on DLC film production, 702

Effect of ion energy on diamond-like/graphitic (sp<sup>3</sup>/sp<sup>2</sup>) nature of C films deposited by ion beams, 542

Effect of ion implantation on ion-plated DLC films, 1117 Electrical resistivities of DLC, 281

Friction and wear performance of IBD DLC films on steel substrates, 119

Incorporation of N2 into DLC films, 210

Interfacial characteristics of arc-discharge-deposited diamond-like films on 19 different substrate materials, 52

LT PACVD of amorphous C films for biomedical-polymeric substrates, 83

Mechanical properties of IBD DLC on polymers, 205

Microstructure of inclusions in nanocrystalline C films deposited at low temperature, 1048

Nanolayered gradient structures as intermediate layer for diamond coatings, 1107

Optical emission spectroscopy during growth of DLC from methane plasma, 564

Optical properties of band-gap-modulated DLC thin films, 817

Precursor gas effect on structure and properties of DLC films, 1230

Primary reaction processes in deposition of DLC films by photon-enhanced CVD of CH<sub>4</sub> using windowless hydrogen lamp, 476

RT deposition of DLC films by microwave plasma jet, 10 Reactive ion etching of diamond and DLC films, 645

Role of microstructure in forming thin carbon film properties, 1132

Spectroscopic and selected mechanical properties of DLC films synthesized by broad-beam ion deposition from CH<sub>4</sub>, 534

Structural characterization and properties enhancement of DLC films synthesized under low energy Ne<sup>+</sup> bombardment, 1319

Structural modifications in a-C: H films doped and implanted with nitrogen, 88

Structure and chemical bonding in high density amorphous C, 1056

Thin hydrogenated α-C: H films in semiconductor/ diamond-like film single-crystal heterostructures, 143

Diamond-like coatings

Tribological behaviour of hard C coatings deposited on steel substrates by PACVD, 1028 Diamond-like films

Breakdown of a-C coatings on ion-implantation-modified metal alloys with jet of abrasive particles, 779

Characterization of wear surfaces in dry sliding of steel and alumina on hydrogenated and hydrogen-free C films, 1329

Dynamics of a-C film growth by PLD: kinetic energy of incident particles, 1124

Effect of ion energy on diamond-like/graphitic (sp<sup>3</sup>/sp<sup>2</sup>) nature of C films deposited by ion beams, 542

Friction behaviour and wear resistance of DLC films under cryogenic temperatures, 1381

Hardness and elasticity of DLC films prepared by ionbeam assisted sputter deposition, 770

High gap sputtered DLC layers, 814

Modification of electronic properties of IBD DLC on polymers, 1265

Open-circuit mode drift mobility measurements in DLC films, 858

Properties of DLC layers deposited onto SiO<sub>2</sub> aerogel, 868 Properties of carbon films deposited by laser ablation, 1128

R.f. PACVD DLC coatings on insulating objects, 613 Superconducting critical fields of diamond-like films containing W, 871

Trap distribution in thin DLC films, 865

Diamond/B SiC

Production of  $\beta$ -SiC buffer layers for CVD diamond thin films by ion implantation, 500

Dielectric properties

Properties of bulk polycrystalline CVD diamond, 303

Diode

Cathodoluminescence and electroluminescence in ion implanted type II diamonds, 922

Electrophysical properties of SiC epitaxial films, 1393 Multicolour, radiation-resistant SiC light-emitting diodes, 1045

Dislocations

Mechanical properties of natural diamonds at 1200  $^{\circ}$ C, 198

Doping

Ambiguous doping effects in a-C: H films prepared by PACVD, 1103

Cathodoluminescence and electroluminescence in ion implanted type II diamonds, 922

Diamond power transistor performance, 1301

Doping and growth of DLC films by IBD, 137

Growth and characterization of P doped diamond films, 672

Hydrogen-free a-C preparation and properties, 353 Microstructures and mechanical properties of a-C:N:H

Time-dependent perturbed angular distribution studies of CVD diamond, 151

Doping n-type

Doping of diamond, 35

films, 1034

Search for diffusion of Li implants in natural and polycrystalline CVD diamond, 677

Doping p-type

Characterization of undoped and B-doped polycrystalline diamond films synthesized by hot-filament CVD using methanol, 618

Diamond based light emitting structures, 947

Doping of diamond, 35

Ohmic contacts on semiconducting diamond grown by CVD, 30

STM of diamond irradiated with high energy ions, 711 Trimethylboron doping of CVD diamond thin films, 628

Electrical conductivity

Ambiguous doping effects in a-C: H films prepared by PACVD, 1103

Correlation between breakdown voltage and structural properties of polycrystalline and heteroepitaxial CVD diamond films, 951

Diamond films as thermal conductors and electrical insulators applied to semiconductor power modules, 658

Electronic characterization of diamond films prepared by ECR microwave plasma, 878

Influence of gas composition on electrical resistivity of diamond thin films synthesized by Ta hot-filament method, 277

Modification of electronic properties of IBD DLC on polymers, 1265

Optical properties of band-gap-modulated DLC thin films, 817

Reality of doping by B implantation of CVD polycrystalline diamond from comparison of Raman and electrical measurements, 623

Role of microstructure in forming thin carbon film properties, 1132

Temperature dependence analysis of EPR signal and electrical conductivity in a-C and a-C: H, 844

Electrical properties

Characterization of undoped and B-doped polycrystalline diamond films synthesized by hot-filament CVD using methanol, 618

Characterization of undoped and doped homoepitaxial diamond layers produced by microwave plasma CVD, 515

Correlation between breakdown voltage and structural properties of polycrystalline and heteroepitaxial CVD diamond films, 951

Doping of diamond, 35

Electrical behaviour and breakdown in plasma deposited c-BN layers, 720

Epitaxial nucleation, growth and characterization of highly oriented, (100)-textured diamond films on Si, 382

High-field conductivity of polycrystalline diamond films, 957

Improved electronic properties of DLC films by HP postdeposition treatment, 980

Innovative semiconductor base—

diamond/(carbon-carbon) composite, 1243

Microstructures and mechanical properties of a-C: N: H films, 1034

Ohmic contacts on semiconducting diamond grown by CVD, 30

Patterning of CVD diamond films by seeding and their field emission properties, 1296

R.f. PACVD DLC coatings on insulating objects, 613 Selective etching of c-BN layers, 650

Synthetic diamond-based detector of ionized radiation,

Trimethylboron doping of CVD diamond thin films, 628 Very low resistivity Al–Si ohmic contacts to B-doped polycrystalline diamond films, 983

Electrical resistivity

Electrical resistivities of DLC, 281

Electron cyclotron resonance

Electronic characterization of diamond films prepared by ECR microwave plasma, 878

Electron cyclotron resonance plasmas

Comparison of (CH<sub>4</sub>-O<sub>2</sub>)-H<sub>2</sub> and CO-H<sub>2</sub> plasmas for LT diamond film deposition by ECR-PACVD, 105

Diamond films grown on p-type microcrystalline-SiC: H/crystalline-Si substrates, 177

Reply to the comment on "Search for carbon nitride CN<sub>x</sub> compounds with a high nitrogen content by electron cyclotron resonance plasma deposition", *Diamond Relat. Mater.*, 3 (1994) 264–269, 1279

Search for CN<sub>x</sub> compounds with high nitrogen content by ECR plasma deposition, 264

Electron diffraction

Structure and chemical bonding in high density a-C, 1056 Electron energy loss

Chemisorption of hydrogen on diamond surfaces studied by high resolution EELS, 975

Detailed atomic structure of tetrahedral a-C, 369

Electron paramagnetic resonance

Characterization of defects in B implanted CVD diamond films by EPR and cathodoluminescence, 737

Electronic characterization of diamond films prepared by ECR microwave plasma, 878

Structure and creation conditions of complex nitrogen-nickel defects in synthetic diamonds, 1196

Temperature dependence analysis of EPR signal and electrical conductivity in a-C and a-C:H, 844

Electron spectroscopy

Comment on "Search for carbon nitride CN<sub>x</sub> compounds with a high nitrogen content by electron cyclotron resonance plasma deposition", *Diamond Relat. Mater.*, 3 (1994) 264–269, 1277

Fine structure in secondary electron emission spectrum as spectroscopic tool for C surface characterization, 691

Influence of surface treatment on electronic structure of CVD diamond films, 891

Reply to the comment on "Search for carbon nitride  $CN_x$  compounds with a high nitrogen content by electron cyclotron resonance plasma deposition", *Diamond Relat. Mater.*, 3 (1994) 264–269, 1279

PES of CVD diamond, 1289

Valence band PES and structural morphology of N- and B-containing MPACVD diamond films, 696

Electron transport

Density of states in amorphous Si, C and SiC from TOF measurement, 1356

Diamond power transistor performance, 1301

Open-circuit mode drift mobility measurements in DLC films, 858

Electron-assisted CVD

Diamond deposition by hollow cathode arc discharge,

Role of accelerated electrons on diamond formation processes during electron-assisted CVD, 452

Electronic devices

Diamond power transistor performance, 1301 Hydrogen-free a-C preparation and properties, 353 Metal/insulator/metal-type structures based on a-C-Si alloys: electronic properties in dark and under illumination, 874

Ellipsometry

Real-time spectroscopic ellipsometry studies of diamond film growth by microwave PECVD, 431

Energy gap

Electronic DOS and deep defects of a-C:H, 861

Plasma beam deposition of highly tetrahedrally bonded a-C, 608

Trap distribution in thin DLC films, 865

Environment

Influence of hydrogen contained in hard C coatings on their tribological behaviour, 787

Environmental effect

Tribological behaviour of hard C coatings deposited on steel substrates by PACVD, 1028

**Epitaxy** 

Nucleation and growth of CVD diamond on magnesium oxide (100) and titanium nitride-magnesium oxide (100) surfaces, 393

Oriented CVD diamond films: twin formation, structure and morphology, 373

Parallel vs. diagonal epitaxy models of diamond and c-BN on Si(001), 457

Etching

Diamond tubes and fibers, 173

LT thinning of thick CVD diamond films with molten Ce-Ni alloy, 254

Mechanical properties of natural diamonds at 1200 °C,

p-n Junction diode by B-doped diamond heteroepitaxially grown on Si-doped c-BN, 1389

Selective etching of c-BN layers, 650

Evaporation

C films deposited by PVD focused-arc evaporation, 41

Field-effect transistors

Hydrogen-free a-C preparation and properties, 353

Fluorine chemistry

Behaviour of diamond crystal surfaces during heating in fluorine gas and fluorocarbon–fluorine gas mixtures, 66

Time-dependent perturbed angular distribution studies of CVD diamond, 151

Free-standing

Laser damage testing of CVD-grown diamond windows, 1173

Mechanical property measurements of bulk polycrystalline CVD diamond, 1168

Photothermal examination of heat diffusion inhomogeneity in diamond films of submicron thickness, 752

Friction

Characterization of wear surfaces in dry sliding of steel and alumina on hydrogenated and hydrogen-free C films, 1329

Friction behaviour and wear resistance of DLC films under cryogenic temperatures, 1381

Influence of hydrogen contained in hard C coatings on their tribological behaviour, 787

Friction and wear

Friction and wear performance of IBD DLC films on steel substrates, 119

Friction coefficient

Tribological behaviour of hard C coatings deposited on steel substrates by PACVD, 1028

Gas phase chemistry

Chemical basis of C-H-O phase diagram in diamond plasma depositions, 126

Diamond formation in C-H-O system, 573

Effect of gas-phase composition on surface morphology of polycrystalline diamond films, 270

Effect of native SiO<sub>2</sub> layer on nucleation of diamond using combustion flame, 239

Fundamental limits to growth rates in methane-hydrogen microwave plasma, 56

Spectroscopic analysis and chemical kinetics modeling of diamond deposition plasma reactor, 581

Gas phase diagnostics

Absolute radical density measurements in CH<sub>4</sub>-H<sub>2</sub> d.c. discharge, 422

Diamond formation in C-H-O system, 573

KrF laser photo-ablation of graphite target: application to development of thin films, 598

Measurement of atomic hydrogen in hot filament reactor by two-photon LIF, 587

Plasma diagnostics in growth of c-BN films, 551

Gas phase reaction

Diamond formation in C-H-O system, 573

Quasi-equilibria of gaseous species in C–H system, 470 Role of accelerated electrons on diamond formation processes during electron-assisted CVD, 452

Gas phase reactions

Chemical basis of C-H-O phase diagram in diamond plasma depositions, 126

Thermodynamic approach to C-H-O deposition diagram in diamond CVD, 163

Gas phase species

Diamond formation in C-H-O system, 573

Dynamics of a-C film growth by PLD: kinetic energy of incident particles, 1124

Plasma discharges in diamond deposition with different O<sub>2</sub> concentrations, 1183

Study of Ar-CH<sub>4</sub>-H<sub>2</sub> microwave post-discharge under diamond deposition conditions: correlations between analysis performed in gas phase and in C thin films, 560

Thermochemical computation of diamond deposition domain, 129

Gases

Influence of hydrogen contained in hard C coatings on their tribological behaviour, 787

Graphite

C films deposited by PVD focused-arc evaporation, 41 Electron microscopy of irradiation and thermal effects on C:H films, 688

Fine structure in secondary electron emission spectrum as spectroscopic tool for C surface characterization, 691

Investigation of Co behaviour during diamond deposition on cemented carbides, 805

Passivation of carbon fiber by diamond deposition, 1249 Practical use of strength and anticorrosion properties of a-C thin films, 775

Stabilization of diamond relative to different substrate—C interfaces: nucleation model for CVD diamond growth based on charge transfer consideration, 448

Thermodynamic approach to C–H–O deposition diagram in diamond CVD, 163

Wear properties and Raman spectroscopy of ionbombarded glass-like carbon, 47

Growth

Atomic steps in CVD diamond growth, 155

Capacitively coupled r.f. plasma sources: viable approach for CVD diamond growth? 602

Determination of diamond film quality during growth using *in situ* Raman spectroscopy, 22

Diamond growth from mixture of fluorocarbon and hydrogen in microwave plasma, 1072

Doping and growth of DLC films by IBD, 137

Effect of filament temperature on growth of diamond using hot-filament CVD, 168

Extensive diamond film deposition by d.c. plasma jet CVD, 325

Growth and characterization of P doped diamond films, 672

Polytype patterning in epitaxial layers on basis of nonequilibrium phase transitions, 346

Worldwide status of LT growth of diamond, 313

Growth morphology

Characterization of structure and defects in textured diamond films by ion channelling, 1091

Diamond deposition by hollow cathode arc discharge, 1235

Morphometric analysis of diamond crystals elaborated by microwave PACVD: application to textured films, 520

Oriented CVD diamond films: twin formation, structure and morphology, 373

Photothermal examination of heat diffusion inhomogeneity in diamond films of submicron thickness, 752

Scanning laser microscopy as tool for *in situ* investigation of diamond growth, 741

Valence band photoelectron spectroscopy and structural morphology of N- and B-containing MPACVD diamond films, 696

## Hard carbon coatings

Tribological behaviour of hard C coatings deposited on steel substratesby PACVD, 1028

## Hardness

Breakdown of a-C coatings on ion-implantation-modified metal alloys with jet of abrasive particles, 779

Hardness and elasticity of DLC films prepared by ionbeam assisted sputter deposition, 770

Sintering of ultrafine diamond particles under HTHP, 222 Spectroscopic and selected mechanical properties of DLC films synthesized by broad-beam ion deposition from CH<sub>4</sub>, 534

## Heated filament CVD

Absolute radical density measurements in  $CH_4$ – $H_2$  d.c. discharge, 422

CVD diamond growth on Ge for IR window applications, 939

Characterization of Ta impurities in hot-filament diamond layers, 638

Characterization of undoped and B-doped polycrystalline diamond films synthesized by hot-filament CVD using methanol, 618

Effect of filament temperature on growth of diamond using hot-filament CVD, 168

Effect of gas-phase composition on surface morphology of polycrystalline diamond films, 270

Growth kinetic analysis of diamond films by *in-situ* elastic scattering of light and reflectivity, 426

Influence of gas composition on electrical resistivity of diamond thin films synthesized by Ta hot-filament method, 277

Influences of WC-Co hard metal substrate pre-treatments with B and Si on LP diamond deposition, 1360

Internal stresses in CVD diamond layers, 757

Measurement of atomic hydrogen in hot filament reactor by two-photon LIF, 587 New method of diamond CVD with closed gas circuit, 1040

Scanning laser microscopy as tool for *in situ* investigation of diamond growth, 741

Soft X-ray emission study of HFCVD diamond films, 1 *In-situ* monochromatic and spectroscopic optical investigations of diamond thin film growth, 577

Heteroepitaxy

Correlation between breakdown voltage and structural properties of polycrystalline and heteroepitaxial CVD diamond films, 951

Deposition and characterization of BN thin films, 332 Heteroepitaxial growth of diamond on c-BN in microwave plasma, 398

High-field conductivity of polycrystalline diamond films, 957

Lateral thermal diffusivity of epitaxial diamond films,

Oriented CVD diamond films: twin formation, structure and morphology, 373

p-n Junction diode by B-doped diamond heteroepitaxially grown on Si-doped c-BN, 1389

Structural characterization of diamond films grown epitaxially on Si, 510

High pressure synthetic diamonds

Structure and creation conditions of complex nitrogen-nickel defects in synthetic diamonds, 1196 High pressure/high temperature synthesis

Superheating around diamonds in directly heated HPHT diamond growth cell, 227

Synthesis of c-BN using Li<sub>3</sub>BN<sub>2</sub>, Sr<sub>3</sub>B<sub>2</sub>N<sub>4</sub> and Ca<sub>3</sub>B<sub>2</sub>N<sub>4</sub> as solvent-catalysts, 75

Hollow cathode arc plasma

Diamond deposition by hollow cathode arc discharge,

# Homoepitaxy

Characterization of hydrogen-terminated CVD diamond surfaces and their contact properties, 961

Characterization of undoped and doped homoepitaxial diamond layers produced by microwave plasma CVD, 515

Flame deposition and characterization of large type IIA diamond single crystals, 408

Stability and reconstruction of diamond (100) and (111) surfaces, 966

## Hydrocarbon chemistry

Quasi-equilibria of gaseous species in C-H system, 470 Reply to the comment on "Search for carbon nitride  $CN_x$  compounds with a high nitrogen content by electron cyclotron resonance plasma deposition", *Diamond Relat. Mater.*, 3 (1994) 264–269, 1279

## Hydrogen

Energetics of hydrogenic reactions at diamond surfaces by local spin-density functional theoretical method, 1370

IR attenuated total reflectance studies of d.c. biased growth of diamond films, 486

Improved electronic properties of DLC films by HP postdeposition treatment, 980

Removal of non-diamond carbon from surface of CVD diamond films, 1227

## **Impurities**

Characterization of Ta impurities in hot-filament diamond layers, 638

Diamond luminescence: resolved donor-acceptor pair recombination lines, 825

Effect of filament temperature on growth of diamond using hot-filament CVD, 168

High-field conductivity of polycrystalline diamond films, 957

Lateral thermal diffusivity of epitaxial diamond films, 1178

New paramagnetic centres containing Ni ions in diamond, 17

Structure and creation conditions of complex nitrogen-nickel defects insynthetic diamonds, 1196

Synthetic diamond-based detector of ionized radiation, 259

## In-situ characterization

Determination of diamond film quality during growth using *in situ* Raman spectroscopy, 22

Reactive ion etching of diamond and DLC films, 645 Real-time, *in situ* PEEM observation of CVD diamond

oxidation and dissolution on Mo, 1066 Search for CN<sub>x</sub> compounds with high nitrogen content by ECR plasma deposition, 264

Soft X-ray emission study of HFCVD diamond films, 1 In-situ mass sampling during supersonic arcjet synthesis of diamond, 417

*In-situ* monochromatic and spectroscopic optical investigations of diamond thin film growth, 577

#### In-situ diagnostics

Effect of substrate temperature distribution on thermal plasma jet CVD of diamond, 319

Growth kinetic analysis of diamond films by *in-situ* elastic scattering of light and reflectivity, 426

IR temperature measurement on diamond-coated tools during machining, 765

Real-time spectroscopic ellipsometry studies of diamond film growth by microwave PECVD, 431

Scanning laser microscopy as tool for *in situ* investigation of diamond growth, 741

Soft X-ray emission study of HFCVD diamond films, 1 *In-situ* Raman investigation of diamond films during growth and etching processes, 438

# Infrared absorption

Deposition and characterization of BN thin films, 332 IR attenuated total reflectance studies of d.c. biased

growth of diamond films, 486

R.f. PACVD DLC coatings on insulating objects, 613 RT deposition of DLC films by microwave plasma jet, 10

Infrared transmission
Analysis of c-BN thin films by neutron depth profiling,
728

Diamond protective coatings for optical components, 1137

IR temperature measurement on diamond-coated tools

IR temperature measurement on diamond-coated tools during machining, 765

Optical properties of BN thin films, 831

Thermal properties of bulk polycrystalline CVD diamond, 1158

## Insulator

Diamond films as thermal conductors and electrical insulators applied to semiconductor power modules,

# Interface

CVD diamond wires and tubes, 810

Characterization of strength and adhesion of diamond films on metallic substrates using substrate plastic straining technique, 791 Deposition of diamond films on sapphire: interfacial properties and patterning techniques, 1375

Improved electronic properties of DLC films by HP postdeposition treatment, 980

Interfacial characteristics of arc-discharge-deposited diamond-like films on 19 different substrate materials, 52

Interfacial layer effects in growth of CVD diamond, 492 Investigation of CVD diamond intermediate layer-steel interface, 912

Solubility and wettability of diamonds by metal melting in the range of their thermodynamic stability, 7

Wetting and bonding of diamond films by high melting point metals in the range of diamond thermodynamic stability, 1262

#### Interfacial layers

CVD diamond growth on Ge for IR window applications, 939

Comparative study of adsorption of hot filament activated hydrocarbons of Si, gallium arsenide and CVD diamond, 706

Effects of hydrogen on transition layers between diamond films and Zr, Hf substrates, 1315

Interaction of diamond with Mo during ion plasma deposition, 61

Interfacial layer effects in growth of CVD diamond, 492 Nanolayered gradient structures as intermediate layer for diamond coatings, 1107

Very low resistivity Al–Si ohmic contacts to B-doped polycrystalline diamond films, 983

## Ion beam growth

Comment on "Search for carbon nitride CN<sub>x</sub> compounds with a high nitrogen content by electron cyclotron resonance plasma deposition", *Diamond Relat. Mater.*, 3 (1994) 264–269, 1277

Deposition mechanism of diamond-like a-C and a-C:H,

Effect of ion energy on diamond-like/graphite (sp<sup>3</sup>/sp<sup>2</sup>) nature of C films deposited by ion beams, 542

## Ion bombardment

Effect of space charge sheath on properties of C and diamond films in r.f. plasma jet, 528

Electron microscopy of irradiation and thermal effects on C:H films, 688

Low energy ion-induced damage of polycrystalline diamond films, 663

Mechanical properties of IBD DLC on polymers, 205

STM of diamond irradiated with high energy ions, 711

Structural characterization and properties enhancement of DLC films synthesized under low energy Ne<sup>+</sup> bombardment, 1319

Wear properties and Raman spectroscopy of ionbombarded glass-like carbon, 47

# Ion implantation

Breakdown of a-C coatings on ion-implantation-modified metal alloys with jet of abrasive particles, 779

Cathodoluminescence and electroluminescence in ion implanted type II diamonds, 922

Characterization of defects in B implanted CVD diamond films by EPR and cathodoluminescence, 737

Effect of ion implantation on ion-plated DLC films, 1117 Electrophysical properties of SiC epitaxial films, 1393

Investigations of diamond nucleation on a-C films generated by d.c. bias and microwave plasma, 506

Mechanical properties of IBD DLC on polymers, 205

Modification of electron properties of IBD DLC on polymers, 1265

Production of β-SiC buffer layers for CVD diamond thin films by ion implantation, 500

Reality of doping by B implantation of CVD polycrystalline diamond from comparison of Raman and electrical measurements, 623

Search for diffusion of Li implants in natural and polycrystalline CVD diamond, 677

Structural modifications in a-C: H films doped and implanted with nitrogen, 88

Ion-assisted deposition

Characterization by UV-visible and IR spectroscopy of thin DLC films prepared by Laser-Arc, 732

Hardness and elasticity of DLC films prepared by ionbeam assisted sputter deposition, 770

Mechanisms in ion induced c-BN growth, 341

Modification of electronic properties of IBD DLC on polymers, 1265

Spectroscopic and selected mechanical properties of DLC films synthesized by broad-beam ion deposition from CH<sub>4</sub>, 534

Thin hydrogenated α-C: H films in semiconductor/ diamond-like film single-crystal heterostructures, 143 Isotopic effects

Graphitization of synthetic diamond by 193 nm laser light.

Comparison of <sup>12</sup>C-enriched diamonds with those of natural isotopic composition, 195

Isotopic effect of B<sub>4</sub>C thermal conductivity, 14

Kinetic energy

Dynamics of a-C film growth by PLD: kinetic energy of incident particles, 1124

Kinetics

Diamond-growth from mixture of fluorocarbon and hydrogen in microwave plasma, 1072

New method of diamond CVD with closed gas circuit, 1040

Precursor gas effect on structure and properties of DLC films, 1230

Quasi-equilibria of gaseous species in C-H system, 470 Kossel's method

Precision studies of synthetic diamonds using Kossel's method, 112

# Laser

Deposition of thin highly dispersive diamond films deposition by laser ablation, 328

Dynamics of a-C film growth by PLD: kinetic energy of incidentparticles, 1124

KrF laser photo-ablation of graphite target: application to development of thin films, 598

Laser materials based on diamond with GR1 centers, 936 Measurement of atomic hydrogen in hot filament reactor by two-photon LIF, 587

Properties of carbon films deposited by laser ablation, 1128

Scanning laser microscopy as tool for *in situ* investigation of diamond growth, 741

Laser damage

Laser damage testing of CVD-grown diamond windows,

Properties of bulk polycrystalline CVD diamond, 303 Laser irradiation

Graphitization of synthetic diamond by 193 nm laser light.

Comparison of <sup>12</sup>C-enriched diamonds with those of natural isotopic composition, 195

Laser-assisted CVD

Incorporation of N2 into DLC films, 210

Laser-assisted PVD

Characterization by UV-visible and IR spectroscopy of thin DLC films prepared by Laser-Arc, 732

Superconducting films on diamond by pulsed laser deposition, 747

Low substrate temperature

Adhesion strength between a C film and a polymeric substrate, 116

Comparison of (CH<sub>4</sub>-O<sub>2</sub>)-H<sub>2</sub> and CO-H<sub>2</sub> plasmas for LT diamond film deposition by ECR-PACVD, 105

LT PACVD of amorphous C films for biomedical-polymeric substrates, 83

LT growth of diamond films by microwave plasma CVD using CH<sub>4</sub>+CO<sub>2</sub> gas mixtures, 443

Worldwide status of LT growth of diamond, 313

Luminescence

Cathodoluminescence and electroluminescence in ion implanted type II diamonds, 922

Diamond based light emitting structures, 947

Electrophysical properties of SiC epitaxial films, 1393

Luminescence studies of N- and B-doped diamond films, 821

Metastable phases of carbon during fracture of diamond under ultrahigh compressive stresses, 1087

Multicolour, radiation-resistant SiC light-emitting diodes, 1045

Structure and creation conditions of complex nitrogen–nickel defects in synthetic diamonds, 1196

## Markets

Trends and market perspectives for CVD diamond, 295 Mechanical properties

Adhesion strength between a C film and a polymeric substrate, 116

DLC coatings for biomedical applications, 896

Engineering applications for DLC, 902

Friction and wear performance of IBD DLC films on steel substrates, 119

Hardness and elasticity of DLC films prepared by ionbeam assisted sputter deposition, 770

Interfacial characteristics of arc-discharge-deposited diamond-like films on 19 different substrate materials, 52

Mechanical properties of IBD DLC on polymers, 205 Mechanical properties of natural diamonds at 1200 °C, 198

Mechanical property measurements of bulk polycrystalline CVD diamond,1168

Microstructures and mechanical properties of a-C:N:H films, 1034

Modification of electronic properties of IBD DLC on polymers, 1265

Precision studies of synthetic diamonds using Kossel's method, 112

Properties of DLC layers deposited onto SiO<sub>2</sub> aerogel, 868 Properties of bulk polycrystalline CVD diamond, 303

Structural modifications in a-C:H films doped and implanted with nitrogen, 88

Wear properties and Raman spectroscopy of ionbombarded glass-like carbon, 47

Wear testing of CVD diamond films, 799

#### Membranes

Simulation of electron-scattering properties of diamond membranes in X-ray mask fabrication, 942

#### Metal contacts

Characterization of hydrogen-terminated CVD diamond surfaces and their contact properties, 961

Spectral response of photoconductivity of polycrystalline CVD diamond films, 836

Very low resistivity Al-Si ohmic contacts to B-doped polycrystalline diamond films, 983

#### Metastable carbon

Detailed atomic structure of tetrahedral a-C, 369

#### Metastable phase

Interaction of diamond with Mo during ion plasma deposition, 61

#### Methane

Search for CN<sub>x</sub> compounds with high nitrogen content by ECR plasma deposition, 264

## Microstructural characterization

Diamond nucleation on a-C films generated by d.c. bias and microwave plasma, 506

Structure and chemical bonding in high density a-C, 1056 Microstructure

Electron microscopy of irradiation and thermal effects on C: H films, 688

Epitaxial nucleation, growth and characterization of highly oriented, (100)-textured diamond films on Si, 382

Friction and wear performance of IBD DLC films on steel substrates, 119

Role of microstructure in forming thin carbon film properties, 1132

## Microwave PECVD

Growth of diamond in pulsed microwave discharge, 231 Investigation of bias nucleation process in microwave PECVD of diamond, 555

Morphometric analysis of diamond crystals elaborated by microwave PACVD: application to textured films, 520

Real-time spectroscopic ellipsometry of diamond film growth by microwave PECVD, 431

Study of Ar-CH<sub>4</sub>-H<sub>2</sub> microwave post-discharge under diamond deposition conditions: correlations between analysis performed in gas phase and in C thin films, 560

## Microwave plasma

Heteroepitaxial growth of diamond on c-BN in microwave plasma, 398

Influence of annealing on resistance of polycrystalline CVD diamond films: surface chemical effect, 654

## Microwave plasma CVD

B-doped diamond films using trimethylborate as dopant source in CH<sub>4</sub>-CO<sub>2</sub> gas mixtures, 632

Capacitively coupled r.f. plasma sources: viable approach for CVD diamond growth? 602

Characterization of diamond coatings with TEM, 681

Characterization of diamond films on binderless W-Mo composite carbide, 1270

Characterization of strength and adhesion of diamond films on metallic substrates using substrate plastic straining technique, 791

Characterization of undoped and doped homoepitaxial diamond layers produced by microwave plasma CVD, 515

Correlation between breakdown voltage and structural properties of polycrystalline and heteroepitaxial CVD diamond films, 951 Diamond deposition on porous silicon by PACVD, 1256 Diamond growth from mixture of fluorocarbon and hydrogen in microwaveplasma, 1072

Fundamental limits to growth rates in methane-hydrogen microwave plasma, 56

Growth of (100) orientated diamond films, 388

Growth of diamond in pulsed microwave discharge, 231

IR attenuated total reflectance studies of d.c. biased growth of diamond films, 486

LT growth of diamond films by microwave plasma CVD using CH<sub>4</sub>+CO<sub>2</sub> gas mixtures, 443

Luminescence decay time studies and time-resolved CL spectroscopy of CVD diamond, 1023

Microscopic investigations of Si surfaces pretreated for use in diamonddeposition, 1097

Passivation of carbon fiber by diamond deposition, 1249 RT deposition of DLC films by microwave plasma jet, 10 Role of nucleation step in growth rate of diamond films, 480

Spectroscopic analysis and chemical kinetics modeling of diamond deposition plasma reactor, 581

*In-situ* Raman investigation of diamond films during growth and etching processes, 438

# Microwave plasma-enhanced CVD

Innovative semiconductor base—diamond/(carbon-carbon) composite, 1243

Plasma discharges in diamond deposition with different O<sub>2</sub>concentrations, 1183

### Mobility

Open-circuit mode drift mobility measurements in DLC films, 858

### Modelling

Chemical basis of C-H-O phase diagram in diamond plasma depositions, 126

Comparison of two models of thin diamond film microhardness data to predict hardness of CVD diamond, 783

Deposition mechanism of diamond-like a-C and a-C:H, 361

Diamond power transistor performance, 1301

Effect of gas-phase composition on surface morphology of polycrystalline diamond films, 270

Energetics of hydrogenic reactions at diamond surfaces by local spin-density funtional theoretical method, 1370

General diamond Schottky-barrier diode model from locus diagram analysis, 887

LT thinning of thick CVD diamond films with molten Ce-Ni alloy, 254

Quasi-equilibria of gaseous species in C-H system, 470 Simulation of electron-scattering properties of diamond membranes in X-ray mask fabrication, 942

Spectroscopic analysis and chemical kinetics modeling of diamond deposition plasma reactor, 581

Trends and market perspectives for CVD diamond, 295 In-situ mass sampling during supersonic arcjet synthesis of diamond, 417

## Monitoring and control

Direct electrical control of DLC growth by PECVD, 1223 Morphology

Effect of gas-phase composition on surface morphology of polycrystalline diamond films, 270

Effects of hydrogen on transition layers between diamond films and Zr, Hf substrates, 1315

Investigation of Co behaviour during diamond deposition on cemented carbides, 805

LT thinning of thick CVD diamond films with molten Ce-Ni alloy, 254

Microcharacterization of CVD diamond films by SEM, 1337

Multiple quantum well

Optical properties of band-gap modulated DLC thin films, 817

#### Natural diamond

General diamond Schottky-barrier diode model from locus diagram analysis, 887

Mechanical properties of natural diamonds at 1200 °C, 198

Spectral hole burning study of a neutron-irradiated natural IaB natural diamond, 725

Neutron depth profiling

Analysis of c-BN thin films by neutron depth profiling, 728

#### Nitrogen

DLC film deposition on plasma nitrided steel substrates,

High-field conductivity of polycrystalline diamond films, 957

Microstructures and mechanical properties of a-C:N:H films, 1034

Reply to the comment on "Search for carbon nitride  $CN_x$  compounds with a high nitrogen content by electron cyclotron resonance plasma deposition", *Diamond Relat. Mater.*, 3 (1994) 264–269, 1279

Search for CN<sub>x</sub> compounds with high nitrogen content by ECR plasma deposition, 264

Valence band PES and structural morphology of N- and B-containing MPACVD diamond films, 696

## Nitrogen inclusions

Incorporation of N2 into DLC films, 210

Mechanical properties of natural diamonds at 1200 °C,

Nitrogenated diamond-like carbon

Electrical resistivities of DLC, 281

Non-diamond carbon

Graphitization of synthetic diamond by 193 nm laser light. Comparison of <sup>12</sup>C-enriched diamonds with those of natural isotopic composition, 195

Removal of non-diamond carbon from surface of CVD diamond films, 1227

Non-equilibrium thermodynamics

Thermodynamic approach to C-H-O deposition diagram in diamond CVD, 163

## Nucleation

Effect of native SiO<sub>2</sub> layer on nucleation of diamond using combustion flame, 239

Effect of substrate material on bias-enhanced diamond nucleation, 1188

Investigation of bias nucleation process in microwave PECVD of diamond, 555

Nucleation and growth of CVD diamond on magnesium oxide (100) and titanium nitride-magnesium oxide (100) surfaces, 393

Stabilization of diamond relative to different substrate—C interfaces: nucleation model for CVD diamond growth based on charge transfer consideration, 448

Nucleation and growth

Atomic steps in CVD diamond growth, 155

Diamond films grown on p-type microcrystalline-SiC: H/crystalline-Si substrates, 177 Fundamental limits to growth rates in methane-hydrogen microwave plasma, 56

Growth kinetic analysis of diamond films by *in-situ* elastic scattering of light and reflectivity, 426

Microscopic investigations of Si surfaces pretreated for use in diamond deposition, 1097

Nucleation and growth of diamond on well-defined Si(311) substrate monitored by *in-vacuo* surface analysis, 569

Nucleation of diamond on graphitic carbon, 495

Real-time spectroscopic ellipsometry studies of diamond film growth by microwave PECVD, 431

Role of nucleation step in growth rate of diamond films, 480

STM nanometric study of initial stages of diamond film growth: quantitative measurement of {111} and {100} surface roughness, 715

Solubility and wettability of diamonds by metal melting in the range of their thermodynamic stability, 7

Superheating around diamonds in directly heated HPHT diamond growth cell, 227

Synthesis of c-BN using Li<sub>3</sub>BN<sub>2</sub>, Sr<sub>3</sub>B<sub>2</sub>N<sub>4</sub> and Ca<sub>3</sub>B<sub>2</sub>N<sub>4</sub> as solvent-catalysts, 75

*In-situ* monochromatic and spectroscopic optical investigations of diamond thin film growth, 577

#### Ohmic contacts

Ohmic contacts on semiconducting diamond grown by CVD, 30

Very low resistivity Al–Si ohmic contacts to B-doped polycrystalline diamond films, 983

#### Optical defect centres

Annealing of radiation damage in De Beers colourless CVD diamond, 932

Laser materials based on diamond with GR1 centers, 936 Spectral hole burning study of neutron-irradiated natural IaB natural diamond, 725

Spectral response of photoconductivity of polycrystalline CVD diamond films, 836

# Optical properties

Ambiguous doping effects in a-C: H films prepared by PACVD, 1103

CVD diamond growth on Ge for IR window applications, 939

Characterization by UV-visible and IR spectroscopy of thin DLC films prepared by Laser-Arc, 732

Diamond protective coatings for optical components, 1137 Graphitization of synthetic diamond by 193 nm laser light. Comparison of <sup>12</sup>C-enriched diamonds with those of natural isotopic composition, 195

Growth kinetic analysis of diamond films by *in-situ* elastic scattering of light and reflectivity, 426

High gap sputtered DLC layers, 814

Optical properties of BN thin films, 831

Optical properties of band-gap-modulated DLC thin films, 817

Plasma beam deposition of highly tetrahedrally bonded a-C, 608

Properties of bulk polycrystalline CVD diamond, 303 Properties of carbon films deposited by laser ablation,

Structures and creation conditions of complex nitrogen–nickel defectsin synthetic diamonds, 1196

Thermal properties of bulk polycrystalline CVD diamond,

Thin-film SiC as optical and optoelectronic material, 917

In-situ monochromatic and spectroscopic optical investigations of diamond thin film growth, 577

Optoelectronic properties

Diamond based light emitting structures, 947

Metal/insulator/metal-type structures based on a-C-Si alloys: electronic properties in dark and under illumination, 874

Multicolour-radiation-resistant SiC light-emitting diodes, 1045

Thin hydrogenated α-C: H films in semiconductor/ diamond-like film single-crystal heterostructures, 143

Orientation

Cathodoluminescence of oriented diamond films, 926 Growth of (100) oriented diamond films, 388 Optical characterization of textured microwave CVD diamond, 593

Oxidation behaviour

Influence of annealing on resistance of polycrystalline CVD diamond films: surface chemical effect, 654

Real-time, in situ PEEM observation of CVD diamond oxidation and dissolution on Mo, 1066

Phase diagram

Chemical basis of C-H-O phase diagram in diamond plasma depositions, 126

Growth of (100) oriented diamond films, 388

Synthesis of c-BN using Li<sub>3</sub>BN<sub>2</sub>, Sr<sub>3</sub>B<sub>2</sub>N<sub>4</sub> and Ca<sub>3</sub>B<sub>2</sub>N<sub>4</sub> as solvent-catalysts, 75

Phase equilibrium

Behaviour of diamond crystal surfaces during heating in fluorine gas and fluorocarbon-fluorine gas mixtures, 66

Thermodynamic approach to C–H–O deposition diagram in diamond CVD, 163

Photoconductivity

Hydrogen-free a-C preparation and properties, 353 Spectral response of photoconductivity of polycrystalline CVD diamond films, 836

Synthetic diamond-based detector of ionized radiation, 259

Photoemission

Electronic DOS and deep defects of a-C: H, 861

Photoluminescence

Diamond luminescence: resolved donor-acceptor pair recombination lines, 825

Luminescence of N- and B-doped diamond films, 821 New paramagnetic centres containing Ni ions in diamond,

Spectral hole burning study of neutron-irradiated natural IaB natural diamond, 725

Physical vapor deposition

Analysis of c-BN thin films by neutron depth profiling, 728

Carbon films deposited by PVD focused-arc evaporation,

Deposition and characterization of BN thin films, 332 Evaluation of composite Ni matrix coatings with c-BN interstitials on Ti applied by cathodic arc evaporation, 1352

Plasma diagnostics

Comparison of (CH<sub>4</sub>-O<sub>2</sub>)-H<sub>2</sub> and CO-H<sub>2</sub> plasmas for LT diamond film deposition by ECR-PACVD, 105 Diamond formation in C-H-O system, 573

Direct electrical control of DLC growth by PECVD, 1223 Effect of atomic hydrogen on DLC film production, 702 Optical emission spectroscopy during growth of DLC from methane plasma, 564

Spectroscopic analysis and chemical kinetics modeling of diamond deposition plasma reactor, 581

Worldwide status of LT growth of diamond, 313

Plasma etching

Reactive ion etching of diamond and DLC films, 645

Plasma jet

Effect of space charge sheath on properties of C and diamond films in r.f. plasma jet, 528

Improved adhesion of CVD diamond films to steel and WC-Co substrates, 98

Plasma jet CVD

Effect of substrate temperature distribution on thermal plasma jet CVD of diamond, 319

RT deposition of DLC films by microwave plasma jet, 10 *In-situ* mass sampling during supersonic arcjet synthesis of diamond, 417

Plasma-assisted CVD

Capacitively coupled r.f. plasma sources: viable approach for CVD diamond growth? 602

Diamond deposition by hollow cathode arc discharge, 1235

Diamond film deposition by downstream d.c. glow discharge plasma CVD, 531

Microstructure of inclusions in nanocrystalline C films deposited atlow temperature, 1048

Optical properties of BN thin films, 831

Optical properties of E-BN, 840

Point defects

Influence of gas composition on electrical resistivity of diamond thin films synthesized by Ta hot-filament method, 277

New paramagnetic centres containing Ni ions in diamond, 17

Polycrystalline

Diamond tubes and fibers, 173

Doping of diamond, 35

Ohmic contacts on semiconducting diamond grown by CVD, 30

Thin-film SiC as optical and optoelectronic material, 917 Polycrystalline diamond

Annealing of radiation damage in De Beers colourless CVD diamond, 932

Extensive diamond film deposition by d.c. plasma jet CVD, 325

Thermal properties of bulk polycrystalline CVD diamond, 1158

Raman and X-ray studies of polycrystalline CVD diamond films, 1308

Polycrystalline diamond compact

Cathodoluminescence spectroscopy of diamond films and ceramics, 147

Polycrystalline diamond films

Arc discharge plasma torch for diamond coating deposition, 525

CVD diamond growth on Ge for IR window applications, 939

Characterization of diamond coatings with TEM, 681

Characterization of structure and defects in textured diamond films byion channelling, 1091

Characterization of undoped and B-doped polycrystalline diamond films synthesized by hot-filament CVD using methanol, 618

Correlation between breakdown voltage and structural

properties of polycrystalline and heteroepitaxial CVD diamond films, 951

Diamond deposition by hollow cathode arc discharge, 1235

Effects of hydrogen on transition layers between diamond films and Zr, Hf substrates, 1315

Growth of (100) oriented diamond films, 388

IR attenuated total reflectance studies of d.c. biased growth of diamond films, 486

Influence of annealing on resistance of polycrystalline CVD diamond films: surface chemical effect, 654

Influence of surface treatment on electronic structure of CVD diamond films, 891

Laser damage testing of CVD-grown diamond windows, 1173

Lateral thermal diffusivity of epitaxial diamond films, 1178

Low energy ion-induced damage of polycrystalline diamond films, 663

Mechanical property measurements of bulk polycrystalline CVD diamond, 1168

Photothermal examination of heat diffusion inhomogeneity in diamond films of submicron thickness, 752

Properties of bulk polycrystalline CVD diamond, 303 Reactive ion etching of diamond and DLC films, 645

STM nanometric study of initial stages of diamond film growth: quantitative measurement of {111} and {100} surface roughness, 715

Spectroscopic analysis and chemical kinetics modeling of diamond deposition plasma reactor, 581

Very low resistivity Al-Si ohmic contacts to B-doped polycrystalline diamond films, 983

Wear testing of CVD diamond films, 799

Polycumulene

Linear finite carbon chains (carbynes): role during dynamictransformation of graphite to diamond; geometric and electronic structure, 1151

Polytypes

Polytype patterning in epitaxial layers on basis of nonequilibrium phase transitions, 346

Polyyne

Linear finite carbon chains (carbynes): role during dynamictransformation of graphite to diamond; geometric and electronic structure,1151

Porous silicon

Diamond deposition on porous silicon by PACVD, 1256 Precursor transport

In-situ mass sampling during supersonic arcjet synthesis of diamond, 417

Pretreated substances

Characterization of diamond films on binderless W-Mo composite carbide, 1270

Diamond nucleation on a-C films generated by d.c. bias and microwave plasma, 506

Pretreated substrates

Microscopic investigations of Si surfaces pretreated for use in diamonddeposition, 1097

Processing-microstructure relations

Growth of diamond in pulsed microwave discharge, 231 Selective etching of c-BN layers, 650

Pulse plasma method

Optical properties of E-BN, 840

## Radiation effects

Annealing of radiation damage in De Beers colourless CVD diamond, 932 Multicolour, radiation-resistant SiC light-emitting diodes, 1045

Radical species

Absolute radical density measurements in CH<sub>4</sub>-H<sub>2</sub> d.c. discharge, 422

Raman spectroscopy

B-doped diamond films using trimethylborate as dopant source in CH<sub>4</sub>-CO<sub>2</sub> gas mixtures, 632

C films deposited by PVD focused-arc evaporation, 41 Determination of diamond film quality during growth

using in situ Raman spectroscopy, 22

Diamond deposition on porous silicon by PACVD, 1256 Diamond tubes and fibers, 173

Effect of ion energy on diamond-like/graphitic (sp<sup>3</sup>/sp<sup>2</sup>) nature of C films deposited by ion beams, 542

Effect of ion implantation on ion-plated DLC films, 1117
Friction and wear performance of IBD DLC films on steel substrates, 119

LT growth of diamond films by microwave plasma CVD using CH<sub>4</sub>+CO<sub>2</sub> gas mixtures, 443

Low energy ion-induced damage of polycrystalline diamond films, 663

Luminescence studies of N- and B-doped diamond films, 821

Metastable phases of carbon during fracture of diamond under ultrahighcompressive stresses, 1087

Properties of carbon films deposited by laser ablation, 1128

Raman and X-ray studies of polycrystalline CVD diamond films, 1308

RT deposition of DLC films by microwave plasma jet, 10 Reality of doping by B implantation of CVD polycrystalline diamond from comparison of Raman and electrical measurements, 623

Shift of frequency and Stokes-anti-Stokes ratio of Raman spectra from diamond powders, 1325

Wear properties and Raman spectroscopy of ionbombarded glass-like carbon, 47

Worldwide status of LT growth of diamond, 313

In-situ Raman investigations of diamond films during growth and etching processes, 438

R.f. plasma CVD

Ambiguous doping effects in a-C: H films prepared by PACVD, 1103

Biocompatibility of LT DLC films: TEM, SEM, cytotoxicity, 1120

Capacitively coupled r.f. plasma sources: viable approach for CVD diamond growth? 602

Direct electrical control of DLC growth by PECVD, 1223

DLC coatings for biomedical applications, 896

Effect of space charge sheath on properties of C and diamond films in r.f. plasma jet, 528

Electronic DOS and deep defects of a-C:H, 861

Growth of c-BN coatings in magnetic field enhanced r.f. glow discharge, 337

LT PACVD of amorphous C films for biomedical-polymeric substrates, 83

Optical emission spectroscopy during growth of DLC from methane plasma, 564

Optical properties of band-gap-modulated DLC thin films,

Plasma beam deposition of highly tetrahedrally bonded a-C, 608

Precursor gas effect on structure and properties of DLC films, 1230

Properties of DLC layers deposited onto SiO2 aerogel, 868

R.f. PACVD DLC coatings on insulating objects, 613

Selective growth of diamond using iron catalyst, 403 Structural modifications in a-C: H films doped and

implanted with nitrogen, 88 Structure of a-C:H: experiment and computer simulation,

245 R.f. plasma-assisted CVD

Plasma diagnostics in growth of c-BN films, 551

Rutherford backscattering

Characterization of structure and defects in textured diamond films byion channelling, 1091

Doping and growth of DLC films by IBD, 137

Effect of ion energy on diamond-like/graphitic (sp<sup>3</sup>/sp<sup>2</sup>) nature of C films deposited by ion beams, 542

Removal of non-diamond carbon from surface of CVD diamond films, 1227

## Sapphire

Deposition of diamond films on sapphire: interfacial properties and patterning techniques, 1375

Scanning electron microscopy

Low energy ion-induced damage of polycrystalline diamond films, 663

Microcharacterization of CVD diamond films by SEM, 1337

Scanning tunneling microscopy

Topology of synthetic, B-doped diamond by STM, 94

Scanning tunnelling microscopy

Characterization of hydrogen-terminated CVD diamond surfaces and their contact properties, 961

STM nanometric study of initial stages of diamond film growth: quantitative measurement of {111} and {100} surface roughness, 715

STM of diamond irradiated with high energy ions, 711 Stability and reconstruction of diamond (100) and (111) surfaces, 966

Schottky diode

Characterization of hydrogen-terminated CVD diamond surfaces and their contact properties, 961

General diamond Schottky-barrier diode model from locus diagram analysis, 887

Selective deposition

Deposition of diamond films on sapphire: interfacial properties and patterning techniques, 1375

Selective diamond growth

Selective growth of diamond using iron catalyst, 403 Selective diamond seeding

Patterning of CVD diamond films by seeding and their field emission properties, 1296

Semiconductor

Application of diamond-like layers as gate dielectric in metal/insulator/semiconductor transistor, 853

Epitaxial Cu contacts on semiconducting diamond, 883 Isotopic effect of B<sub>4</sub>C thermal conductivity, 14

Semiconductors

Diamond-like layers as passivation coatings for power bipolar transistors, 849

Silicon carbide

Characteristics of a-C: H: Si films deposited by r.f. sputtering under various deposition conditions, 547

Density of states in amorphous Si, C and SiC from TOF measurement, 1356

Electrophysical properties of SiC epitaxial films, 1393 Multicolour, radiation-resistant SiC light-emitting diodes, Polytype patterning in epitaxial layers on basis of nonequilibrium phase transitions, 346

Production of  $\beta$ -SiC buffer layers for CVD diamond thin films by ion implantation, 500

Thin-film SiC as optical and optoelectronic material, 917 Silicon-on-sapphire

Deposition of diamond films on sapphire: interfacial properties and patterning techniques, 1375

Silicon substrates

Electrical behaviour and breakdown in plasma deposited c-BN layers, 720

Growth of c-BN coatings in magnetic field enhanced r.f. glow discharge, 337

Parallel vs. diagonal epitaxy models of diamond and c-BN on Si(001), 457

Properties of DLC layers deposited onto SiO<sub>2</sub> aerogel, 868 Sintering

Sintering of ultrafine diamond particles under HTHP, 222 Solid state diffusion

Selective growth of diamond using iron catalyst, 403 Solitons

Linear finite carbon chains (carbynes): role during dynamictransformation of graphite to diamond; geometric and electronic structure,1151

sp<sup>2</sup> bonding

Electronic DOS and deep defects of a-C: H, 861 High gap sputtered DLC layers, 814

sp<sup>2</sup>/sp<sup>3</sup> bonding

Behaviour of diamond crystal surfaces during heating in fluorine gas and fluorocarbon-fluorine gas mixtures, 66

Incorporation of N2 into DLC films, 210

MD investigations of a-C:  $\pi$  bonding vs. electronic defect generation, 462

Superheating around diamonds in directly heated HPHT diamond growth cell, 227

sp<sup>3</sup> bonding

Chemisorption of hydrogen on diamond surfaces studied by high resolution EELS, 975

Comment on "Search for carbon nitride CN<sub>x</sub> compounds with a high nitrogen content by electron cyclotron resonance plasma deposition", *Diamond Relat. Mater.*, 3 (1994) 264–269, 1277

Detailed atomic structure of tetrahedral a-C, 369

High gap sputtered DLC layers, 814

Plasma beam deposition of highly tetrahedrally bonded a-C, 608

Spectroscopy

Comparative study of adsorption of hot filament activated hydrocarbons on Si, gallium arsenide and CVD diamond, 706

Luminescence decay time studies and time-resolved CL spectroscopy of CVD diamond, 1023

OES of plasma processes in d.c. discharge during diamond film deposition, 1385

Optical emission spectroscopy during growth of DLC from methane plasma, 564

Spectroscopic and selected mechanical properties of DLC films synthesized by broad-beam ion deposition from CH<sub>4</sub>, 534

Sputtering

High gap sputtered DLC layers, 814

Interaction of diamond with Mo during ion plasma deposition, 61

Role of microstructure in forming thin carbon film properties, 1132

Step-controlled epitaxy

Atomic steps in CVD diamond growth, 155

Stress

Diamond deposition on porous silicon by PACVD, 1256 Improved adhesion of CVD diamond films to steel and WC-Co substrates, 98

Internal stresses in CVD diamond layers, 757

Investigation of CVD diamond-intermediate layer-steel interface, 912

Metastable phases of carbon during fracture of diamond under ultrahighcompressive stresses, 1087

Precision studies of synthetic diamonds using Kossel's method, 112

Precursor gas effect on structure and properties of DLC films, 1230

Stress relief

Diamond protective coatings for optical components, 1137 Flame deposition and characterization of large type IIA diamond single crystals, 408

Investigation of CVD diamond-intermediate layer-steel interface, 912

Structural characterization

Characterization of structure and defects in textured diamond films byion channelling, 1091

Effect of ion implantation on ion-plated DLC films, 1117 Isotopic effect of B<sub>4</sub>C thermal conductivity, 14

Morphometric analysis of diamond crystals elaborated by microwave PACVD: application to textured films, 520

Precursor gas effect on structure and properties of DLC films, 1230

Polytype patterning on epitaxial layers on basis of nonequilibrium phase transitions, 346

Precision studies of synthetic diamonds using Kossel's method, 112

Properties of ultrafine diamond clusters from detonation synthesis, 160

Structure of a-C:H: experiment and computer simulation,

Trimethylboron doping of CVD diamond thin films, 628 Structural characterization and properties enhancement of DLC films synthesized under low energy Ne<sup>+</sup> bombardment, 1319

Structure calculations

Parallel vs. diagonal epitaxy models of diamond and c-BN on Si(001), 457

Structure and chemical bonding in high density a-C, 1056 Structure of a-C:H: experiment and computer simulation, 245

Substrate bias

Effect of substrate material on bias-enhanced diamond nucleation, 1188

IR attenuated total reflectance studies of d.c. biased growth of diamond films, 486

Microscopic investigations of Si surfaces pretreated for use in diamonddeposition, 1097

R.f. PACVD DLC coatings on insulating objects, 613

Substrate preparation
Effect of native SiO<sub>2</sub> layer on nucleation of diamond using

combustion flame, 239
Influences of WC-Co hard metal substrate pre-treatments with B and Si on LP diamond deposition, 1360

Role of nucleation step in growth rate of diamond films, 480

Superconductivity

Superconducting films on diamond by pulsed laser deposition, 747

Superconductors

Superconducting critical fields of diamond-like films containing W, 871

Surface

Comment on "Search for carbon nitride CN<sub>x</sub> compounds with a high nitrogen content by electron cyclotron resonance plasma deposition", *Diamond Relat. Mater.*, 3 (1994) 264–269, 1277

Energetics of hydrogenic reactions at diamond surfaces by local spin-density functional theoretical method, 1370

Spectral response of photoconductivity of polycrystalline CVD diamond films, 836

Stabilization of diamond relative to different substrate—C interfaces: nucleation model for CVD diamond growth based on charge transfer consideration, 448

In-situ monochromatic and spectroscopic optical investigations of diamond thin film growth, 577

Surface characterization

Characterization of Ta impurities in hot-filament diamond layers, 638

Characterization of undoped and doped homoepitaxial diamond layers produced by microwave plasma CVD, 515

Chemisorption of hydrogen on diamond surfaces studied by high resolution EELS, 975

Dynamics of a-C film growth by PLD: kinetic energy of incidentparticles, 1124

Effect of substrate material on bias-enhanced diamond nucleation, 1188

Fine structure in secondary electron emission spectrum as spectroscopic tool for C surface characterization, 691

Friction behaviour and wear resistance of DLC films under cryogenic temperatures, 1381

Influence of surface treatment on electronic structure of CVD diamond films, 891

Stability and reconstruction of diamond (100) and (111) surfaces, 966

Surface chemistry

Behaviour of diamond crystal surfaces during heating in fluorine gas and fluorocarbon-fluorine gas mixtures, 66

Comparative study of adsorption of hot filament activated hydrocarbons on Si, gallium arsenide and CVD diamond, 706

Properties of ultrafine diamond clusters from detonation synthesis, 160

Reactive ion etching of diamond and DLC films, 645 In-situ mass sampling during supersonic arcjet synthesis of diamond, 417

Surface energy

Solubility and wettability of diamonds by metal melting in the range of their thermodynamic stability, 7

Surface structure

Characterization of hydrogen-terminated CVD diamond surfaces and their contact properties, 961

Chemisorption of hydrogen on diamond surfaces studied by high resolution EELS, 975

STM nanometric study of initial stages of diamond film growth: quantitative measurement of {111} and {100} surface roughness, 715

Topology of synthetic, B-doped diamond by STM, 94 Synthetic diamond

Graphitization of synthetic diamond by 193 nm laser light. Comparison of <sup>12</sup>C-enriched diamonds with those of natural isotopic composition, 195 Interaction of diamond with Mo during ion plasma deposition, 61

Precision studies of synthetic diamonds using Kossel's method, 112

Properties of ultrafine diamond clusters from detonation synthesis, 160

Superheating around diamonds in directly heated HPHT diamond growth cell, 227

Synthetic diamond-based detector of ionized radiation, 259

Topology of synthetic, B-doped diamond by STM, 94

# Texture development

Morphometric analysis of diamond crystals elaborated by microwave PACVD: application to textured films, 520

Oriented CVD diamond films: twin formation, structure and morphology, 373

Structural characterization of diamond films grown epitaxially on Si, 510

## Thermal conductivity

Innovative semiconductor base—

diamond/(carbon-carbon) composite, 1243

Isotopic effect of B<sub>4</sub>C thermal conductivity, 14

LT thinning of thick CVD diamond films with molten Ce-Ni alloy, 254

Passivation of carbon fiber by diamond deposition, 1249 Superheating around diamonds in directly heated HPHT diamond growth cell, 227

### Thermal diffusivity

Photothermal examination of heat diffusion inhomogeneity in diamond films of submicron thickness, 752

Search for diffusion of Li implants in natural and polycrystalline CVD diamond, 677

## Thermal plasma

Effect of substrate temperature distribution on thermal plasma jet CVD of diamond, 319

# Thermal properties

Diamond films as thermal conductors and electrical insulators applied to semiconductor power modules, 658

Lateral thermal diffusivity of epitaxial diamond films, 1178

Properties of bulk polycrystalline CVD diamond, 303 Properties of ultrafine diamond clusters from detonation synthesis, 160

Real-time, in situ PEEM observation of CVD diamond oxidation and dissolution on Mo, 1066

Thermal properties of bulk polycrystalline CVD diamond, 1158

## Thermochemistry

Thermochemical computation of diamond deposition domain, 129

## Thermodynamics

Behaviour of diamond crystal surfaces during heating in fluorine gas and fluorocarbon–fluorine gas mixtures, 66

Fundamental limits to growth rates in methane-hydrogen microwave plasma, 56

Growth of (100) orientated diamond films, 388

New method of diamond CVD with closed gas circuit, 1040

Thermochemical computation of diamond deposition domain, 129

Thermodynamic approach to C-H-O deposition diagram in diamond CVD, 163

Total electron yield

Electronic DOS and deep defects of a-C:H, 861

Transmission electron microscopy

Characterization of diamond coatings with TEM, 681 Deposition and characterization of BN thin films, 332 Effect of filament temperature on growth of diamond

using hot-filament CVD, 168

Investigation of Co behaviour during diamond deposition on cemented carbides, 805

Low energy ion-induced damage of polycrystalline diamond films, 663

Microscopic investigations of Si surfaces pretreated for use in diamonddeposition, 1097

Microstructure of inclusions in nanocrystalline C films deposited atlow temperature, 1048

Removal of non-diamond carbon from surface of CVD diamond films, 1227

#### Tribological properties

Characterization of wear surfaces in dry sliding of steel and alumina on hydrogenated and hydrogen-free C films, 1329

DLC film deposition on plasma nitrided steel substrates,

Engineering applications for DLC, 902

Evaluation of composite Ni matrix coatings with c-BN interstitials on Ti applied by cathodic arc evaporation, 1352

Friction behaviour and wear resistance of DLC films under cryogenic temperatures, 1381

Friction and wear performance of IBD DLC films on steel substrates, 119

Structural characterization and properties enhancement of DLC films synthesized under low energy Ne<sup>+</sup> bombardment, 1319

# Tribology

Influence of hydrogen contained in hard C coatings on their tribological behaviour, 787

# Twinning

Characterization of diamond coatings with TEM, 681 Oriented CVD diamond films: twin formation, structure and morphology, 373

Structural characterization of diamond films grown epitaxially on Si, 510

## Vibrational modes

Diamond luminescence: resolved donor-acceptor pair recombination lines, 825

# Vibrational spectroscopy

Chemisorption of hydrogen on diamond surfaces studied by high resolution EELS, 985

## Wear

Breakdown of a-C coatings on ion-implantation-modified metal alloys with jet of abrasive particles, 779

Characterization of wear surfaces in dry sliding of steel and alumina on hydrogenated and hydrogen-free C films, 1329

Engineering applications for DLC, 902

Friction behaviour and wear resistance of DLC films under cryogenic temperatures, 1381

IR temperature measurement on diamond-coated tools during machining, 765

Wear testing of CVD diamond films, 799

## Wires

CVD diamond wires and tubes, 810

X-ray diffraction

Effects of hydrogen on transition layers between diamond films and Zr, Hf substrates, 1315

Evaluation of composite Ni matrix coatings with c-BN interstitials on Ti applied by cathodic arc evaporation, 1352

Growth of c-BN coatings in magnetic field enhanced r.f. glow discharge, 337

LT growth of diamond films by microwave plasma CVD using CH<sub>4</sub>+CO<sub>2</sub> gas mixtures, 443

Microstructure of inclusions in nanocrystalline C films deposited atlow temperature, 1048

Raman and X-ray studies of polycrystalline CVD diamond films, 1308

Structural characterization of diamond films grown epitaxially on Si, 510

Young's modulus

Hardness and elasticity of DLC films prepared by ionbeam assisted sputter deposition, 770

